

# Industrial Development

THE NATIONAL GUIDE TO INDUSTRIAL PLANNING AND EXPANSION



Brunswick-Balke-Collender's President B. E. Bensinger (seated, right) chats with Executive Vice President S. E. Meyers and Vice Presidents R. W. Lutticken and S. P. Jacobson (standing left to right). Story on page 11.

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# INDUSTRIAL DEVELOPMENT

and manufacturers record



Volume 128 December 1959 Number 13

Issued monthly, except semi-monthly in May (13 issues a year), by Conway Publications, Inc., 109 Market Place, Baltimore 2, Md. Tel. LEXington 9-7065.

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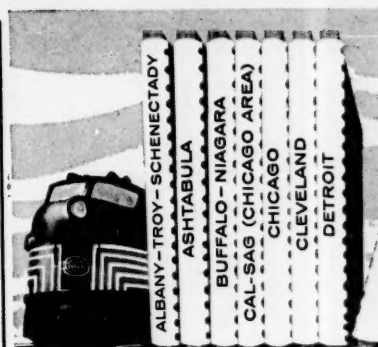
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Annual subscription rate for INDUSTRIAL DEVELOPMENT including MANUFACTURERS RECORD, the SITE SELECTION HANDBOOK, and the BLUE BOOK-DIRECTORY is \$12 per year. (A 50 per cent discount is allowed manufacturing executives responsible for selecting sites for new facilities. Enclose card or letter-head as proof of position). Entered as second class matter at Baltimore, Md. under the act of March 3, 1879.

Guaranteed minimum circulation 16,000 copies. Copyright 1959 by Conway Publications, Inc.



## Facts for site seekers

Each of these area brochures contains a wealth of information on such subjects as available labor, transportation, raw materials, local government and taxes—together with a listing of some selected plant sites, complete with contour maps and aerial photographs.

Please specify the areas in which you are interested:

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| 9. Elkhart                 | 21. Industrial Parks in Illinois, Ohio, New York, Massachusetts, and Michigan |
| 10. Gardenville, N. Y.     |   |
| 11. Hudson River Valley    |   |
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For your free brochures, write: Otto W. Pongrace, Director of Industrial Development, Department D, New York Central Railroad, 466 Lexington Avenue, New York 17, New York.

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# IN OUR ID/MR OPINION...

Fidel Castro is probably the most intriguing industrial developer of our time. He has made economic changes the number one goal of his regime, and it's no secret that he regards himself as being a very knowledgeable chap in this field.

It's interesting, therefore, to compare his methods with those of the more successful area developers in this country. First of all, there's the matter of business climate. Here, development agencies are putting this factor at the top of their lists, going "all-out" to improve relations between government and business.

**Fidel has a different philosophy. At every opportunity, he gives industry a good kick in the teeth. Arbitrary regulations follow on top of arbitrary regulations. Flying squads armed with machine guns raid offices to "borrow" files. As far as business climate goes, Cuba is Antarctica.**

Another interesting comparison is in governmental attitude toward real estate developers — those who risk their fortunes in building new homes and commercial facilities. In the U. S., local governments eager for progress try to encourage and aid these people — our communities want new construction.

But Fidel, with one sweeping decree arbitrarily reducing and restricting rentals, has brought such construction to a snail's pace in Cuba. Property owners, oddly enough, aren't enthusiastic about investing where there is no possibility of a fair return.

From sources unknown, we received a complete copy of Fidel's "Boletin Numero 49"—the much-discussed Agrarian Reform Law, and we've scanned all 23 single-spaced pages. The edict, we find, starts off just fine, stating that "the progress of Cuba involves the growth and diversification of industry . . . to those ends the Revolution has proposed to issue rules that will safeguard and stimulate industry and which will move private initiative through necessary incentives . . ."

But apparently the fellow who wrote the preamble was not acquainted with those who contributed the last 22 pages. In language which would make the heart of any bureaucrat thump with pride, Fidel's decree sets up one development obstacle after another. It provides for breaking up large ownership, penalizing efficiency, taking property away without due payment, setting up cooperatives with state aid, and generally creating in Cuba a system patterned after Karl Marx.

Already, the first effects of Fidel's "development program" can be seen. Large-scale investment in expansion projects has dried up. During the next few months the lack of this basic growth will make itself more sorely felt right across the economic spectrum — in retail sales, in services, and in personal income.



Fidel is going to find those five-hour TV spots mighty helpful when it comes to explaining this trend.

But Fidel won't be getting much sympathy here, although one mainland developer is slightly envious — "When a short-sighted committee member won't cooperate on a new project," he admits, "it sure would be nice to be able to say 'to the wall!'"

\* \* \*

**On the subject of business climate, we have plenty to occupy our time right here at home. There's increasing concern among the most astute observers regarding high interest rates. Those who manipulate our economy in Washington are, in the views of many expert developers, playing with dynamite.**

The latest survey of the Society of Industrial Realtors reveals a serious shortage of funds for financing the thousands of new industrial facilities now in the planning stage. The study, spearheaded by SIR Tom H. Lang, reveals "only prime customers receive consideration and they are forced to pay as high as six-and-one-half per cent in the U. S. and seven-and-one-half in Canada."

Interviews with executives of the top insurance firms around the country showed that 72 percent of them feel that interest rates will go still higher in 1960. Only 2 percent foresee a reduction. Some 26 percent believe rates will be about the same as in 1959.

On the question of availability of funds for industrial loans, 20 percent feel that more money will be available in '60, and some 34 percent believe there will be less. Forty-six percent estimate that money availability will stay about the same.

\* \* \*

*Check points here and there:* Refusing a ride in our single-engine Cessna recently, our good friend Charlie McCullers, of Kinston, North Carolina, explained "For some time I've been convinced that it was part of God's Plan for us to achieve conquest of the air, but I believe He intended for us to do it with multi-engine airplanes" . . . have you ever heard of the Chuck Wagon Gang, down in Odessa, Texas? It's a chamber of commerce outfit which flies all over the country feeding large groups — we do mean large. Flying through West Texas last month we learned the group had fed nearly 3,000 folks in a half-dozen cities in previous weeks . . . we're wondering if both guests showed up for the announcement of the new plant of Southwest Boat Company in Amsterdam, N. Y., recently. They were one Nelson Rockefeller, a fellow interested in industrial development of New York State, and another fellow named Winthrop Rockefeller, who has been pushing industrial development in Arkansas . . . looks like New Mexico is going to land a small steel mill down around Alamogordo. We learned about it last month in Santa Fe, from Fred Phelps, Howard Bessire, and Dick Bittman . . . finally caught up with Frank Willis to get a photo (right), first since he joined our Editorial Advisory Board. Frank is the personable Treasurer of Eberhard Faber in Wilkes-Barre. . . . And, we welcome to the Board Andrew R. Evans, who replaced Gordon Garnhart as Manager of Real Estate at Westinghouse. Andy is a Carnegie Tech man from Pittsburgh . . . making a night approach to Teterboro recently we decided the manufacture of light bulbs must be a great growth industry. In clear skies we could scan a sea of lights from Poughkeepsie to the ocean. It's a great old town.



—H.M.C.



The Texas Power & Light Company invites expanding industry, large or small, to make use of the services of its staff of specialists—skilled and experienced in serving officers and executives of industrial corporations. Without obligation, your particular location problems will be carefully and thoroughly analyzed by those having broad knowledge of industry and facts pertaining to manpower, materials, resources, finance and other important factors in Texas.

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**SIRS:** I read with interest the progress report on the Registered community audit in your October issue. It is most encouraging to note that this unique industrial development tool has been so widely accepted since its introduction in April.

Are extra copies of the form and instructions readily available? If so, I would greatly appreciate receiving a copy of each for my files.

Incidentally, in looking over your geographical section containing names of industrial organizations, by state and city, an idea came to mind which I would like to suggest. Why not add another "key" to the listing which would indicate those cities or towns for which registered community audits are available. Then periodically (say, every three months) an addendum might be inserted in ID which would show additions. Undoubtedly, you or your people have considered this possibility but I thought it was worth mentioning anyway.

**GERALD E MILLER**

Commercial Research Department  
Armco Steel Corporation  
Middletown, Ohio

► Requested material sent. The suggestion for the community audit "key" has been adopted.

**SIRS:** In your article in the July 1959 issue of INDUSTRIAL DEVELOPMENT you state, "The Pittsburgh story is a big one deserving its own detailed survey for some later issue."

We are the country's largest bowling chain organization, and we are interested in establishing about 5 locations in the Pittsburgh area involving a cost of about a half-million dollars each. If the Pittsburgh story has already been written, we would be most grateful if we could get an advance copy of it before publication. If not, perhaps you would be in a position to give us the bibliography you are using or have used for the preparation of the story.

We, of course, are interested in all the usual statistics, such as per capita income, population in the city and population in the suburban area, and growth expectations regarding them. Generally speaking, we have tried to locate in the suburban areas surrounding large cities. The thinking that went into this policy may not apply to Pittsburgh.

In addition to statistics, we are therefore interested in the valuable opinion of experts who in an hour's conversation perhaps could answer a number of important questions. Can you suggest persons from which we might get valuable information which a stranger finds difficult to elicit on his own.

Any help you can give us will be gratefully received.

**HERBERT L. FRIEDBERG**

Chairman of the Board  
Fair Lanes, Inc.  
Baltimore, Maryland

► A representative group of information sources was furnished.

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## LETTERS

**Sirs:** Since we do not have any full time employees in our corporation it takes us a little longer to fill out your Registered Community Audit than some of the other larger places. However we have it about completed.

Another reason we are slow is because we had none of the information at our finger tips and rather than guess we have taken every question that can be answered and written for an official answer. Then when we fill out the affidavit on the back we have proof to back up every statement.

I think this audit is one of the finest services that any magazine could offer. I can tell you honestly that when we get through with this audit that we will know more about our town and community than we have ever known before. Our Mayor and Council are very impressed and yesterday we had a meeting with a planning engineer for zoning and industrial planning. We will send it in now and later send you current information about the above subjects.

Congratulations to you for originating this idea.

**W. E. YOUNG**, Secretary  
Cozad Industrial Development Corp.  
Cozad, Nebraska

**Sirs:** In your October issue of INDUSTRIAL DEVELOPMENT . . . you list certain editorial surveys and plant location reports which are available as reprints. If possible we would like to obtain the following: Charlotte, N. C.; Southwest Georgia; Petersburg, Virginia; Western Mississippi; Orange County, Calif.; Lower Virginia Peninsula.

As much as we have recently started on long range planning of our manufacturing requirements, we have found that these articles are most useful and contain a wealth of information for background purposes. We noticed in reading your magazine that you published in May of this year, a bluebook directory of southern progress. If possible we would also like to obtain a copy of this reference publication . . .

**NAME WITHELD**  
Milwaukee, Wisconsin

►Reprints sent.

**Sirs:** For some time I have saved an article in the Milwaukee Journal on "The Ideal Community for Locating New Industries." Today I am taking time out of a working mother's busy schedule to tell you about this "Ideal Community."

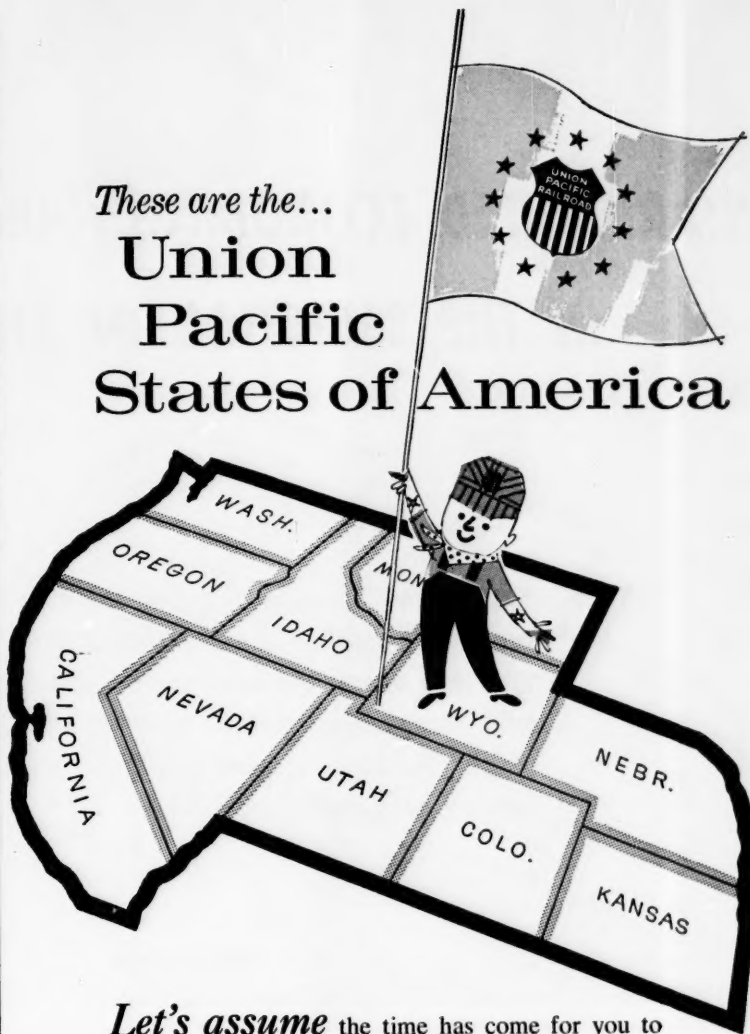
We have it! Right here in this small community of about 8,000 people there is everything you have listed except one, a navigable waterway.

No, I am not a member of the Chamber of Commerce, just a wife of one of the teaching staff of the top flight engineering college located here in Brookings, S. Dak. The Chamber of Commerce will be happy I am sure, to provide you with all the vital statistics.

We do have an Industrial Utopia, we just haven't been discovered yet.

**MRS. K. HOWARD**  
Brookings, South Dakota

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*Railroad*  
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# 'HARDBOILED ECONOMICS' GUIDE DUPONT

## IN THE SELECTION OF SITES FOR PLANTS

**The Du Pont Company's senior engineer says, "We approach the problem of site selection with the firm belief that it is one of the most critical decisions that industrial management has to make in considering a new plant." He explains here how the company goes about making such decisions . . .**

**By F. E. LeVan**

**W**HAT does Du Pont look for when selecting a site for a new plant? That question is often asked, and the answer certainly is not simple, but I shall attempt here to elaborate on the major factors we consider.

Being a chemicals producing company, it is only natural that we are primarily interested in sites for chemical plants and, of course, our thinking is slanted in that direction.

However, in one fundamental respect, a chemical plant is not different from any other plant. That is, a new plant must be located where it can operate at a reasonable profit if the company is to survive and prosper.

In the last analysis, the selection of a plant site is a matter of hardboiled economics. But, profit is not a one-way street. As a plant prospers, the

community prospers. Apparently, this fact is well recognized as indicated by the amount of literature du Pont receives each year from states and communities striving to attract new industry.

The last estimate I heard was that there are about 13,000 agencies throughout the country trying to convince industry that their areas are the most attractive.

New payrolls and new job opportunities are recognized as the most essential elements of local and state progress and economic strength.

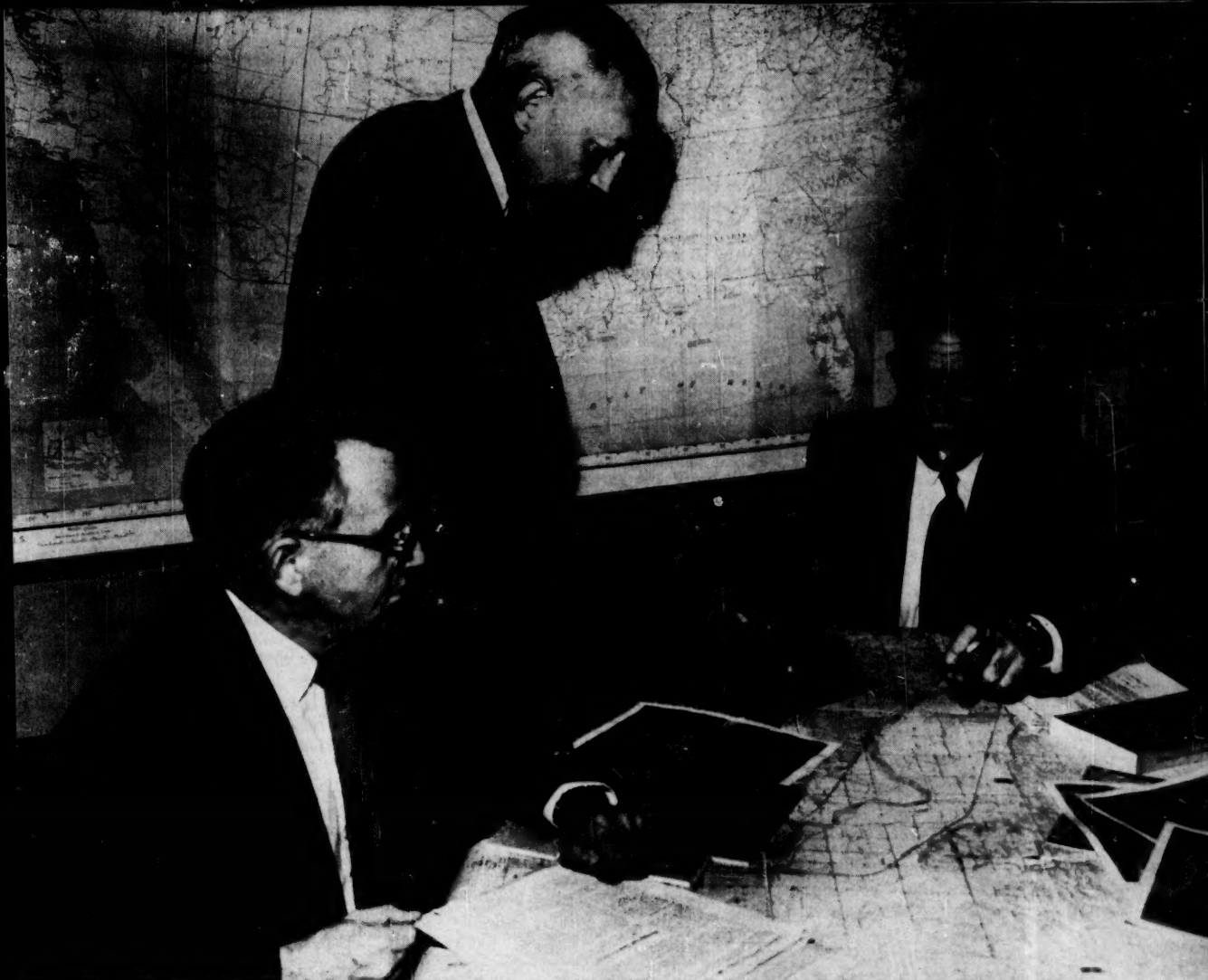
You may ask "just what does industry contribute to the well-being of a community or a state to offset *some of the headaches which it sometimes causes?*" I have some figures which may be of interest to you and which,

I think, will emphasize the benefits of industrial growth.

It has been estimated that for *every 100 new factory employees* there will be *112 more households* in the community and a total of *296 additional people*. The total annual retail gain, exclusive of plant purchases, will be in the order of *\$360,000*.

Take for example, our plant at Kinston, North Carolina, which manufactures "Dacron" polyester fiber, and the one at Camden, South Carolina, for "Orlon" acrylic fiber. In 1957, the latest year for which figures are available, these two plants alone pumped upwards of \$23 million into the economic bloodstreams of the two states in the form of wages, salaries, and local purchases. In addition, there were of course local and state taxes paid as





Senior Engineer F. E. LeVan (right) of Du Pont discusses plant location problems with D. C. Carmichael (left), senior development engineer of the company, and P. L. Richardson of the engineering service division. Whenever Du Pont decides to add a new facility to its far-flung system of plants, long and detailed studies are made before the actual site selection is made; but, says Engineer LeVan, "In the last analysis the selection of a plant site is a matter of hardboiled economics."

our share toward the cost of running the counties and states.

We approach the problem of plant site selection with the firm belief that it is one of the most critical decisions that industrial management has to make in considering a new plant.

Our goal is to select a location where it will be possible to manufacture the desired product and place it in the hands of the consumer at less cost than it can be supplied by an existing or potential competitor. That doesn't mean locating just another good site, but the best site for the proposed plant.

Not only must we take into consideration the plant we contemplate building at that time, but also we must look into the crystal ball and try to forecast its future growth either for expanded production or for new prod-

ucts. Our plants seldom remain static and often increase several fold in size.

Competition in industry and rising costs have made it more and more imperative that all items affecting investment and cost of operation be thoroughly analyzed and the plant located where they can be held to a minimum. Personal preference or selection at random has no place in plant site selection. Operating defects usually can be corrected at comparatively low cost, but faults of location are forever carried as a manufacturing burden.

These faults may be reflected in higher cost of product; possibly to the extent of contributing to the abandonment of the plant. Obviously, no community, especially a small one, has any desire to face the problems arising when an industry abandons its local

plant.

Therefore, state and community boosters can best discharge their responsibility to their people by assuring themselves that their state and communities have those things to offer which will contribute to the prosperity of industry; not only new enterprises, but also those they already have.

There are many factors that cannot be economically evaluated. They are what we call the intangibles and are a matter of good judgment and common sense.

One of the most important of these is **POLITICAL CLIMATE**. Political climate—which is analogous to industrial climate—in the final analysis represents the will of the people and their attitude toward business.

We, in common with most other

## SITE FACTORS

industrial enterprises, think that our plants will be more successful in those states and areas where there is a *healthy industrial climate—political climate if you wish. We believe that we should not be exposed to special penalties and harassments such as a disproportionate tax burden on business, anti-business labor legislation, and general hostility toward business—a hostility which frequently begets and often demands the legislative action against business.*

We are well advised to avoid those locations where there is the feeling that the corporate citizen, inanimate and voiceless, can be pushed around with comparative safety.

Of prime importance and often the sole deciding factor of plant location is the availability of good quality trainable labor, its attitude and industrial relations history and trend.

*Few industries, and Du Pont is no exception, will locate a new plant or expand an existing one where the local labor market is dominated by one industry; where labor is inefficient or unstable or where there has been a pattern of strikes, radicalism, mass picketing and civil disturbances.*

If labor relations are unsatisfactory, what will be the penalty, economically, to the plant? It is anyone's guess. We give consideration only to those areas where we can expect labor stability, harmonious relations between labor and management, and the willingness of labor to perform a day's work.

Some states and communities are offering what appear to be extraordinary concessions and inducements to bring in new industry; not the least of which is a substantial tax concession. *Many of these inducements are more imaginary than real.*

I have often been asked "To what extent do taxes govern the choice of Du Pont plant locations?" This is a difficult question to answer because taxes are not the only costs that make up the debit column. *Obviously, the higher they are, the greater amount of credits they cancel out and the less economic advantage of a site. They may be sufficiently high to make a location unattractive. On the other hand, low taxes alone are not enough to attract a plant.* As Mr. Robert L. Hershey, a Vice-President and a Director of our company said at the opening of our Brevard plant, we are less impressed by this sort of inducement than by the history and trend of taxes and a sound state fiscal policy.

### ABOUT THE AUTHOR

A man with extensive experience in the site selection field, F. E. Le Van has been assigned to plant location activities for the huge Du Pont organization since 1947. He has covered several foreign countries and the major part of the United States in carrying out his duties as senior engineer in the company's engineering department.

In the past I.D. has carried several different reports by du Pont officials on various aspects of the company's expansion planning, and the accompanying report by Mr. Le Van enlarges on these previous studies to present du Pont's general philosophy in site selection. The earlier reports were used in the issues of January, 1954; May, 1955, October 1957, and January, 1956.

We have never sought tax-free status, special favors, or special privileges. On the contrary, we believe that if we are associated with a community, we should bear our fair share of its operating cost. We recognize the ever-increasing burdens placed on states and municipalities by the demands of education and other institutions.

It has become important and probably will become even more important that a new plant be built where there are at least reasonably good living conditions for its employees. At least a portion of the supervisory personnel is transferred from existing plants to the new one and we believe that they have the right to expect the good living conditions necessary to raise their families and enjoy life.

### Employee Welfare

Because it has been the Du Pont policy since its founding to give a great deal of thought to the welfare of employees, a thorough investigation is made of a community before a decision is reached to build a plant in that vicinity. In many surveys, good sites with many economic advantages are rejected primarily because desirable living conditions for employees are not available within a reasonable distance.

Of necessity, we must judge a community by its appearance. We seldom have the opportunity to meet many of its citizens before the site is selected. Well-kept homes make a good impression as does an up-to-date business section with good shopping facilities. A good hospital, not necessarily large, is a very good recommendation. Needless to say that a good school system with schools that are up-to-date and not overcrowded and dilapidated are of

vital interest. Paved streets and water and sewage systems are indicative of an up-to-date and progressive community.

A large chemical plant will require upwards of 1,000 men over a period of months to construct it, and may require an equal or greater number to operate it. It is seldom that this large number of men can be recruited within daily commuting distances of a small community. Consequently, there is a definite and appreciable impact upon a small town when an influx of this magnitude occurs. It is faced with a sudden need for expansion of facilities, with their attendant costs, to accommodate these men and their families.

We are especially interested in the attitude of the people of that community. Will they sincerely welcome a large number of newcomers who may have an appreciable effect on their way of living? Will our employees be absorbed in, and become part of the community? Is the community willing to assume these added and continuing costs and responsibilities which are the result when a new industry comes to town?

This is not to say that Du Pont and most industries are not willing to meet their fair share of community responsibilities with every means at their disposal. But there are sociologic and economic advantages accruing to these communities from the fuller employment, increased tax revenues, payments for local purchases, and wages which result in a rise in the standard of living. In other words, industry provides the wherewithal for meeting the problems which accompany industrial expansion and doesn't expect to step over the line and assume the community's responsibilities.

The acceptance of this principle—the ability and willingness of a community to absorb industrial expansion—is one of the cardinal factors considered in the selection of a site.

These four factors, a healthy political climate, sound tax views, a good labor situation, and the proper attitude on the part of a community are fundamental to attracting and keeping industry in any area.

In addition, of course, every plant has its specific basic needs. They are by no means the same for all types of plants and they may vary widely from one kind of industry to another. In some cases, one or another may have controlling influence and some are im-

## SITE FACTORS

perative regardless of cost. Those that apply to chemical or related products would not necessarily apply to other industries.

The cost to provide these needs contributes to that of the product and hence the success or failure of the plant. These costs along with those of taxes and freight are the basis for our economic analyses.

Contrary to what seems to be the general opinion, we, and for that matter, most companies, do not start a site location survey by trying to locate a site near a particular city, no matter how attractive it may be as a place to do business or as a place to live.

Before a detailed survey is undertaken, we must first select the general area or region. This is done, not by whim, but by economics. Of foremost importance is proximity to raw material sources, or to markets or to both.

In other words, we are vitally concerned with freight costs. This cost, together with that of materials in inventory and in transit, most often determines the region in which a plant can be operated most economically.

### The General Area

Once the general area has been determined, a good chemical plant site must meet a number of prerequisites. The first consideration is sufficient acreage of land, of suitable terrain, which we usually insist be above flood level. However, if there is a significant economic advantage in a particular location, a site can be protected from flood by levees or by filling, but considerable additional cost is usually involved.

It is seldom that we are interested in a tract of much less than 500 acres. Usually a large acreage is required to provide not only adequate and suitable terrain for plant and expansion, but also a sufficient buffer zone between the plant and neighboring occupancies.

Usually, the cost of land, though important, is a small fraction of the total investment. However, grading or filling of the site, which is essentially a part of land cost, may be a large factor depending on the type of plant to be built.

Because of our need for large acreages, our plants are located, with few exceptions, outside of corporate limits. However, we like to be within about 10 miles of a community.

Chemical plants need a good quality of fresh water and plenty of it. By good

quality, I mean in a chemical sense. Treatment of water to make it suitable for process needs is expensive. Our greatest need is for untreated water for cooling purposes. It is ideal if there is an abundance of well water at the site and the site is adjacent to a river from which we can pump water if needed.

One of the biggest problems of a chemical plant is the disposal of its trade waste. A sizable river is almost a necessity for economical waste disposal. Rivers have a potential capacity, but limited, for the assimilation of waste without harm to stream life. But the Du Pont Company, as well as others, annually spends large sums in the treatment of waste to reduce pollution to within safe limits. Our company currently has an investment of approximately \$50 million in this type of equipment.

The plant must be located where prompt rail freight service will be provided for incoming raw materials and to the points of product distribution.

A railroad spur will be needed to the plant, beginning with its construction, and therefore the site cannot be too far from the main line. We try to locate a site where this distance will be a minimum. A mile is about the upper limit and over suitable terrain, otherwise the cost may be prohibitive. An adequate paved highway to the plant is a must.

As I mentioned before, upwards of 1,000 or more men are required to construct a plant and ultimately 2,000-3,000 may be employed to operate it. It can be readily seen that *traffic density on the immediate highways at the beginning and end of the work day can be something to contend with. Not only is there this passenger car traffic, but during the day there is often heavy truck traffic, beginning with plant construction. Frequently, much of our product is shipped by truck.*

Some plants require barge transportation services. In this event, of course, it is mandatory that the site be located on a river where there is sufficient depth, usually 8 ft. or more, so that these services can be provided.

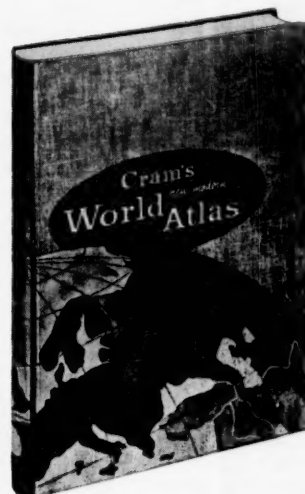
It isn't surprising that few laymen have a full appreciation of the importance of electric power supply. I'm not referring to its importance in the operating cost balance sheet, but to what we call its *quality*. I don't mean to say that low cost power isn't attractive, it is, and we have some chemical operations where it is essential. By quality,

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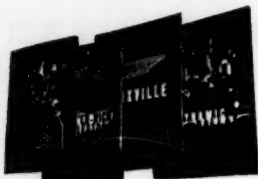
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## EDITORIAL

### SURVEYS . . .

#### and plant location reports

Since before the turn of the century MANUFACTURERS RECORD has issued special studies of specific cities and areas to assist the site-seeking industrial firm. Today, through the combined coverage of INDUSTRIAL DEVELOPMENT and MANUFACTURERS RECORD this tradition of leadership in this field is being extended and carried forward.

Before you go site-seeking, take advantage of background studies which have already been prepared for the areas listed below. Generally, reprints are available gratis.

Area	Date
St. Lawrence Valley	Nov., 1959
Oregon	Nov., 1959
Virginia	Oct., 1959
Staten Island	Oct., 1959
Oklahoma	Sept., 1959
Fresno County, Calif.	Sept., 1959
Niagara Frontier	Aug., 1959
Canada	Aug., 1959
Ohio River Valley	Jul., 1959
Columbus, Ohio	June, 1959
St. Louis Area	May, 1959
Iowa	Apr., 1959
Puerto Rico	Mar., 1959
Washington, D. C. Area	Feb., 1959
Cleveland Corridor	Jan., 1959
West Texas	Jan., 1959
Rome and Floyd County, Ga.	Dec., 1958
Sacramento	Nov., 1958
North Carolina	Oct., 1958
Orange County, Calif.	Sept., 1958
Erie County, Pa.	Aug., 1958
New Bedford, Mass.	Aug., 1958
Lower Va. Peninsula	July, 1958
Mattoon, Ill.	June, 1958
Florida Bay Area	June, 1958
Western Mississippi	May, 1958
Savannah Ga., Area	May, 1958
Knoxville, Tenn.	April, 1958
Charleston, S. C.	March, 1958
Dallas, Tex.	Feb., 1958
Louisiana	Jan., 1958
Cobb County, Ga.	Jan., 1958
Arizona	Dec., 1957
Pennsylvania	Sept., 1957
Canada	Aug., 1957
Petersburg, Va.	Aug., 1957
Southwest, Ga.	July, 1957
Charlotte, N. C.	Feb., 1957

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## SITE FACTORS

I refer to its continuity, and the closeness of voltage and frequency regulation.

The required continuity of supply and closeness of regulation often are such that it is necessary for us to generate at least what is known as our critical load.

In the complicated continuous chemical processes of today, shutdowns, even though momentary, can be extremely expensive. Not only is there loss of production, but also there may be considerable loss of costly material in the various stages of being processed and of many man-hours spent in getting the process back into operation.

We usually require dual supply lines from the utility company high voltage system which preferably is a loop between generating stations. A location out at the end of a low capacity line is not for a chemical plant. A demand of 2,000 k.w. or more is not unusual for the initial plant and the ultimate can easily be 10-20,000.

*We have to reject many good sites because of the inadequacy of electric power supply.* There are few that have sufficient outstanding advantages to offset the investment penalty of a company-owned electric power generating plant.

The established rates for both construction and operating labor are used

to economically evaluate one site against another. It may be interesting to you to know that we have found differences in the order of a million dollars in plant construction labor costs for a 20 million dollar plant.

A large portion of this difference was caused by fringe benefits such as travel time to the job, which is based on the distance from the controlling labor union headquarters to the job. This is quite a handicap to overcome when comparing investment costs and usually a site with such a handicap is soon bypassed.

The cost of operating personnel of course affects product cost, but frequently, the ratio of man-hours per unit of chemical products is not as high as it is in some industries and therefore may be a less critical factor.

So much for the specifics on which we can hang a dollar sign.

The science of plant site selection—if it can be called a science—is frequently cloaked in mystery. There is nothing mysterious about it, however. It is just a case of good common sense. Whether it is the local merchant who is seeking a new site or the large corporation, the problems are fundamentally the same and they can all be summarized in one question.

*Which location will best assure the success of the venture?*

"I'm disturbed about 1967," says Du Pont Vice President Thomas Crawley Davis who has serious questions about industry's financial ability to meet the needs of a growing population.

As reported in a recent issue of "Better Living," the Du Pont employee magazine, Mr. Davis said he had three reasons for his concern about the future:

"The first is inflation which is a deadly erosion of our purchasing power. It is proceeding at an apparently steady average rate of two per cent a year. And, as far as I can see, it will continue unless something heroic is done to stop it.

"My second concern relates to population growth and the new needs and demands that some 200 million Americans will have by 1967. To satisfy this future demand without lowering living standards, the nation's output of goods and services—its gross national product—must rise from its present annual rate of \$460 billion or so to nearly \$700 billion.

"The third worrisome element in this look at the future is the ability—or, perhaps, lack of ability—of Du Pont and the rest of U. S. industry to provide productive facilities fast enough to satisfy these new and enlarged appetites."

Explaining his comments, Mr. Davis continued: "One reason for my pessimism is the fact that industry must operate in an inflation economy under an unrealistic depreciation policy. And, in spite of this, there is a continuing unwillingness on the part of the U. S. Treasury Department and the accounting profession to support suitable revisions of the income tax law which would permit sufficient depreciation allowances for income tax purposes . . .

"What we need is a new tax rule which will allow us to recover, through depreciation allowances, the original investment in terms of current purchasing power. The recovered capital could then be used to replace worn out and outmoded equipment."

Mr. Davis concluded by urging that industry make a concerted effort to take the necessary steps that will result in its being able to operate "under a sensible depreciation and tax policy."



# How To Bowl 'em Over!

**Through a carefully planned program of diversification and the addition of new manufacturing facilities, Brunswick-Balke-Collender Company has expanded its sales volume nine fold during the past decade. How this growth occurred is told by the organization's president in this special report . . .**

**By B. E. Bensinger**

**F**OR the current year net sales of The Brunswick - Balke - Collender Company will be in excess of \$250,000,000, compared with a little less than \$27,000,000 just under ten years ago. In the course of this expansion, Brunswick broadened the scope of its operations from the single area of bowling and billiards to the whole field of outdoor and indoor recreation, education, hospital and medical supplies, defense activities and international markets.

Few companies can present a picture of growth on this scale during the past decade. What makes the development more intriguing is that the company "bought" only about \$60,000,000 of the \$223,000,000 increase in sales volume by acquiring other enterprises. The bulk of the expansion occurred within the framework of a company that is more than a century old and is managed by the fourth generation of the founder. The fifth generation, incidentally, is now learning the business from the ground up.

Was this growth accidental? Was it planned? How did it come about?

## **The Basic Business**

The roots of Brunswick's spectacular growth go back to our experience in World War II and in Korea when our business was threatened with near ex-

inction. Ever since the company's founding, Brunswick has been dedicated to the field of bowling and billiards. Brunswick was, and still is, the leading producer of virtually all items used in bowling establishments—the lanes, pinsetters, balls, pins and accessory equipment and supplies. At the outset of the War, bowling was classified as a non-essential industry and we were therefore denied the use of critical materials, such as steel, copper, plastics, rubber and even wood. Of course, we quickly turned our manufacturing facilities at Muskegon, Michigan, to war-supporting activities, but a sharp lesson of the dangers of industrial single-mindedness was taught us in World War II and reiterated in the Korean War.

Shortly after World War II we determined to diversify into essential national activities that were not vulnerable to another national emergency. A planning group was established to analyze markets, growth trends, potentials, competition, capital requirements, profit margins and the related capacities and skills in our organization. With a modest capitalization and only an adequate balance sheet, we determined that initially the better policy was to build our way into new industries rather than buy our way in.

Bear in mind that at our Muskegon,

Michigan plant we had manufacturing skills in metal framing, plastics and wood working. Especially important was the experience gained at the Marion, Virginia factory, which we acquired at the close of the War, in molding glass fiber reinforced plastic, an activity which we are continuing in a significant and expanding defense division. This war-born unit of the Brunswick organization is presently making various items for aircraft and missile manufacturers.

In developing an expansion and diversification program, a good many industries were surveyed. We finally decided that the particular situation then existing in the field of education gave Brunswick the opportunity of offering a new line of school furniture that embodied new designs, utilized modern materials and expressed new concepts in teaching.

You will remember that in the late 1940's the crop of postwar babies was beginning to filter into the schools and the flood of future enrollments was clearly envisaged. It was obvious that a great many new schools would have to be built, old schools would have to be enlarged and a modernization program was demanded if our educational plant was to keep pace with the changing situation. In a field that was then dominated by rather out-moded ideas,

we felt that we had to be more than just competitive; we had to open the curtain on our new business with a compelling demonstration of leadership.

Brunswick had plenty of manufacturing and merchandising know-how but it lacked the basic design talent. We scoured the country and found Dave Chapman, a young and brilliant designer in California. We set him to work quietly to design a complete line of school furniture that was inexpensive, colorful, attractive, mobile to meet modern teaching methods, completely harmonious with progressive ideas being adopted by educational systems throughout the country.

While this was going on, we had an opportunity to buy a small company in the gymnasium equipment field, selling to the school market we were seeking to capture. This was Horn Brothers of Fort Dodge, Iowa. Purchase of Horn Brothers gave us a "launching pad" for the larger line of school furniture and a skeleton distribution organization of experience and competence.

By late 1952 the educational furniture program was all wrapped up, and in March 1953 we raised the curtain on our new line at the Convention of School Administrators in Atlantic City. We had a modern design, color, plastics, mobility, stackability and many other features virtually unknown to the industry. Certainly nobody else in the industry had them all. This was the real beginning of our educational equipment business which now has increased to the point where we have a new plant in Kalamazoo devoted entirely to this new aspect of Brunswick business. In addition, we have adapted the line to meet commercial and office furniture requirements.

### The Automatic Pinsetter

While we were looking so intently straight ahead in the educational field, we weren't watching behind us. Suddenly we found that the very able American Machine & Foundry Company had stolen a march on us in our own domain—bowling. Although Brunswick had been working on the problem for some years, AMF brought out a practical, automatic pinsetting device which they called a pinspotter. It worked, and it galvanized the Brunswick organization into an all-out effort to perfect a competitive machine.

No one can be unaware of the fact that Brunswick now has an automatic pinsetter that works superlatively well.

Certainly the bowling industry knows that Brunswick has not abdicated its leadership in the field. In fact, we recovered the leadership in sales of automatic pinsetting machines in 1958, as we have retained the leadership in all other segments of the industry.

The story sounds easy in telling, but for a few years it was pretty heavy going. Fortunately Brunswick enlisted the competent assistance of The Murray Corporation of America who provided both engineering talent and financial aid for the development of the automatic pinsetter. In May of 1957 Brunswick bought out Murray's interest in the Pinsetter.

In planning the program for the Automatic Pinsetter we were confronted with three very important problems—how to manufacture it, how to merchandise and how to finance the program.

### The First Problem

The first problem was nicely solved with the help of the Otis Elevator Company. The Brunswick Automatic Pinsetter is simple to operate and service but a very complicated machine to produce. Working closely with our engineers and using our tools and dies, Otis quickly built up production to a level that will enable us to install up to 13,000 in 1959.

Since subcontracting the work to Otis is a departure from our normal practice of manufacturing our own products, we acquired property this year in Muskegon, Michigan, on which we are erecting a plant for the manufacture of the Brunswick Automatic Pinsetter. Arrangements have been made with Otis to supplement our production in 1960 to meet the continued heavy demand for the Pinsetter. With its nationwide network of service stations around the country, Otis will continue to install and service Automatic Pinsetters.

On the second question of merchandising the Pinsetter, we decided to follow our traditional policy of selling rather than leasing which was the basis on which the competitive machine was being merchandised. We developed pay-as-you-go terms which offered a better deal to the bowling proprietor while it yielded a fair profit to us. We bear in mind always that we need the bowling proprietor as a friend in years to come and a customer for all the other items we sell.

From the viewpoint of growth and

development you can see that by 1957 we had expanded operations in one new field—school equipment—and at the same time had committed ourselves more deeply than ever to the bowling industry. Moreover, since the Automatic Pinsetter carries a price tag of \$8100 and is paid for in from 3½ to 6 years Brunswick was faced with a very substantial financing problem. To put it in concrete terms our total assets have grown from just over \$31 million at the end of 1953 to \$213 million at the end of 1958 when receivables alone amounted to \$167 million. We were financing this business in part through borrowings of almost \$102 million, only \$11 million of it being long-term.

This financial development was foreseen early. To finance the Pinsetter receivables we arranged with the CIT Corporation to extend up to 90% of the face amounts of the notes to be received on the sale of this equipment. While Brunswick had a long and very satisfactory experience with the note obligations of bowling proprietors it was a completely new business with CIT and they entered only after a careful survey of the basic changes developing in the bowling industry, the quality of our equipment and the character of the people with whom we were doing business. When CIT agreed to go along with us, they committed themselves to extend up to \$55 million on Pinsetter receivables, the largest single commitment in the history of this outstanding financing organization. That limit has since been increased to \$95 million.

Another important factor in financing our growth was a change in our accounting treatment of receivables on other bowling items as well as Pinsetters. At the end of 1956 we changed our accounting, for tax purposes only, from the accrual to the installment basis. This allows us to defer payment of income taxes on the profits involved in each sale until payment is received, whereas on the accrual basis it was necessary to borrow from the banks to pay taxes on future receipts. Changing our accounting practice in effect gave us over \$3 million in increased working capital and the deferred taxes have since risen to over \$30,000,000. Shareholders were informed, of course, of the difference between our reports for tax purposes and our published reports.

### Outdoor Recreation

By the end of 1957 Brunswick had

grown very substantially and was continuing to go ahead at a rapid rate. With the exception of the Horn Brothers acquisition, all of our growth had been internal. At that time we had an opportunity to extend our interest in the field of recreation through the acquisition of one of the outstanding companies in the manufacture and distribution of equipment and supplies for golf, baseball, tennis, and other outdoor sports. This was MacGregor Sports Products, Inc. an integrated and well developed organization of outstanding reputation with two plants in Cincinnati and sales of about \$17,000,000. We felt that this was so closely related to our interest in indoor recreation that it conformed to Brunswick's basic growth program.

### Health And Medical Supplies

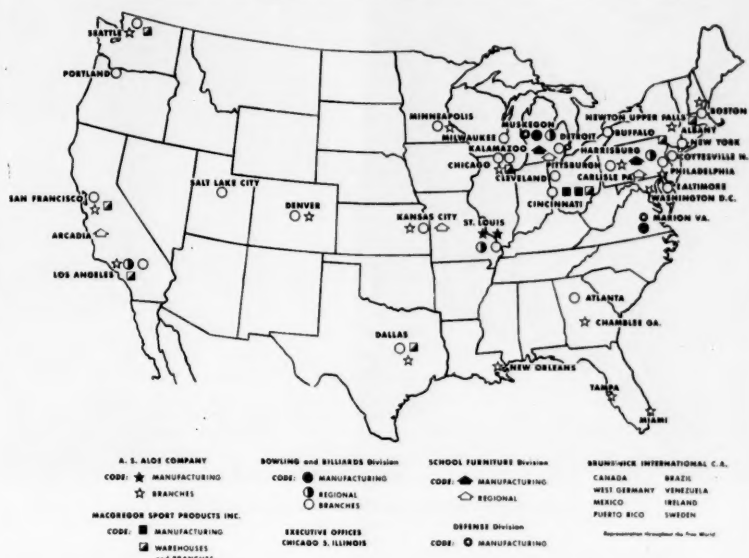
In January of this year Brunswick took a further long step in its program of growth. This was the merger with the A. S. Aloe Company of St. Louis, the second largest distributor of hospital, medical and scientific laboratory equipment and supplies. This acquisition was especially important since it put Brunswick into a new area—the field of health. Here again we have a basic national interest where demand is rising rapidly in response to the growth of health and welfare programs of industry, medical insurance plans and rapid expansion of hospital facilities. There is, moreover, some overlap with Brunswick's existing activity since the School Equipment Division has been adopting some of its equipment to institutional requirements.

Within the past month we extended our Aloe acquisition by purchasing the T. J. Noonan Company of Boston which is in a similar business, but concentrated in New England and we therefore strengthened our hold in that market and the capacity of Aloe as a whole. The total Aloe operation now has a volume in excess of \$40-million.

### Brunswick International

Recently we have taken affirmative steps to develop the great potential of bowling and outdoor sports in Europe and other foreign lands. Manufacturing operations have been acquired in Ireland and a few pilot bowling centers are being established in England, Denmark and elsewhere. We are hopeful that the American bowling game will "catch on" in Europe and develop into a great new market for our products.

### OPERATIONS OF THE BRUNSWICK · BALKE · COLLENDER COMPANY



### Management

Throughout the years of planning and implementing its growth program, Brunswick has been keenly aware of the necessity of broadening its management structure to cope with the new problems which must inevitably arise in a vastly larger operation. Exactly as in the case of a physical or sales expansion, management growth can take place in two ways—internal development or buying executive talent. Very early in the program Brunswick organized a management development plan principally to select from our younger employees those with the capacity and drive to fit them for progressively more responsible positions.

#### ABOUT THE AUTHOR

President B. E. Bensinger of Brunswick-Balke-Collender is of the fourth generation of management in the company that was made famous by the bowling and billiards equipment it produces and which is more than a century old. A graduate of Yale University, Mr. Bensinger was assistant to the sales manager of the company in 1934-35, assistant secretary and assistant treasurer in 1935, and general manager in 1936. The following year he was advanced to the position of executive vice president, a post he held till being named president in 1950.

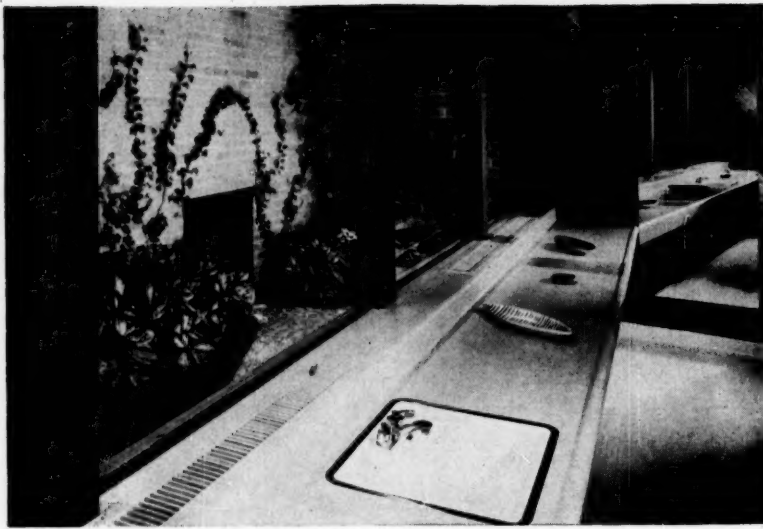
It has proved very fruitful and a number of our middle management group are young men who have come up through the organization.

The more recent acquisitions were keyed partly to the question of management. The companies we acquired all had very competent managements and they remained in charge of their respective divisions.

As a significant summary of our management situation, we can point out that the top 30 executives of Brunswick and its subsidiaries average 45 years of age—and most of them have many years to their credit in the Brunswick organization.

Brunswick is constantly revising upward its program for further development, expansion and growth. Whenever we have taken an audit of our development, as we do regularly, we find that we are exceeding our estimates and therefore we adjust the line of our projections higher.

A successful growth record must be firmly anchored to two solid bases. They are first, a sound development plan, and secondly, the energy and determination to carry it out. On the later point I am reminded of the old adage of the successful steeple-chaser. He and his horse know that when they come to a difficult jump they must "throw the heart over." With that spirit Brunswick is continuing to plan further growth in the years ahead.



The ladies' room features an enclosed Japanese garden.

# NEW CONCEPT: PARK



For office workers the club has a swimming pool (foreground).



Employees lunch in a striking room with a patio view.





Developer Bill Windsor (left) shows site plan to ID Editor Conway.

# FOR BRANCH OFFICES

DALLAS. Developer Bill Windsor has staked a solid claim to fame in the industrial world by virtue of the phenomenal success of his Brook Hollow Industrial District here. About six years ago he launched that project and he's been averaging about one million square feet of new plant floor area every year. In one 12 month period he added more than 50 new units.

About two years ago, Windsor had another idea. Why not, he asked, apply the same advanced planning techniques that were so successful in Brook Hollow to a new area conceived specifically for branch offices? That was the beginning of Empire Central, a new Windsor success story.

Adjacent to Brook Hollow, Empire Central is a sparkling new office center which already includes buildings for four major insurance firms, a General Electric center, and important units for geophysical firms and others. A motel is in the advanced planning stage. If anything, the new project is moving faster than Brook Hollow.

Showpiece of Empire Central is a centrally-located club for the employees of firms locating here. Of striking architectural design, the handsome club offers inexpensive meals in pleasant surroundings, as well as after-hours recreational facilities. Participating firms pay the club dues, which amount to \$1.50 per employee per month.

Officials of incoming firms are enthusiastic—they point to ease of obtaining new office workers and low turnover. They also like Windsor's method of insuring beautiful grounds: each firm pays 8 cents per front foot per month for a central maintenance operation which includes watering, mowing, fertilizer, and tree replacement.

Windsor wraps up his philosophy this way: "The firm able to attract the highest level of employees at a given wage will be most successful—companies are just people after all."

# • COMMUNITY AUDIT •

**T**HE National Community Audit Registry announces another 100 progressive communities which have their audits on file in the National Registry.

The National Registry wishes to congratulate these progressive communities which have submitted their audits and have had them approved. These audits are now available to industry interested in expansion.

Although this program is now only six months old, it is fast becoming an important tool for the analysis and comparison of communities. It has proved invaluable to industry and communities alike.

Industry can obtain difficult-to-assemble comparative data on any number of communities through the use of the Community Audit program. A number of area groups such as state de-

velopment agencies, public utilities and railroads have undertaken to distribute and verify audits of communities which they serve. These groups as well as Conway Publications will have copies of each community's Audit for confidential distribution to interested firms. The community's themselves, of course, will make copies available also.

No "form" can answer all your questions or provide enough data for a site decision. However, by having standardized data available in comparative form, you can quickly eliminate obviously unsuitable locations.

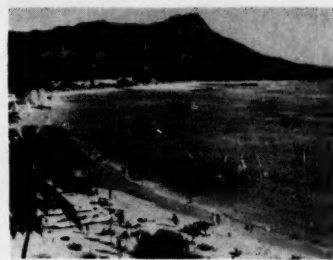
If you are considering several possible communities and need preliminary information . . . ask for a Registered Community Audit. You may address inquiries directly to communities, area developers, or Conway Publications.

Shenandoah, Pennsylvania . . .	101	Bonner Springs, Kansas . . .	135	Marion, Kansas . . . . .	169
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THE STATE OF

# HAWAII

Statehood has turned all eyes toward Hawaii. The scenic beauty of the islands and their appeal to the tourist have been widely heralded. Here's another view—a rundown on industrial development opportunities for expansion-minded mainland firms.

AN AREA SURVEY by

**Leland Development**

and manufacturers record  
THE NATIONAL GUIDE TO INDUSTRIAL PLANNING AND EXPANSION



Impact of the jet on the Hawaiian economy can be envisioned by this striking comparison: One Boeing 707 (above) shuttling between Hawaii and the mainland can move as many passengers per year as the Queen Mary could in similar service.

# PROGRESS IS JET-

By H. McKinley Conway, Jr.

After a swing through the islands, I.D.'s editor says "The big boom in Hawaii is just starting. Statehood set it off, focusing the international spotlight on the islands. Another big factor, jet travel, has just been added. Together they add up to compelling reasons why every expansion-minded firm should take a look at the 50th state."

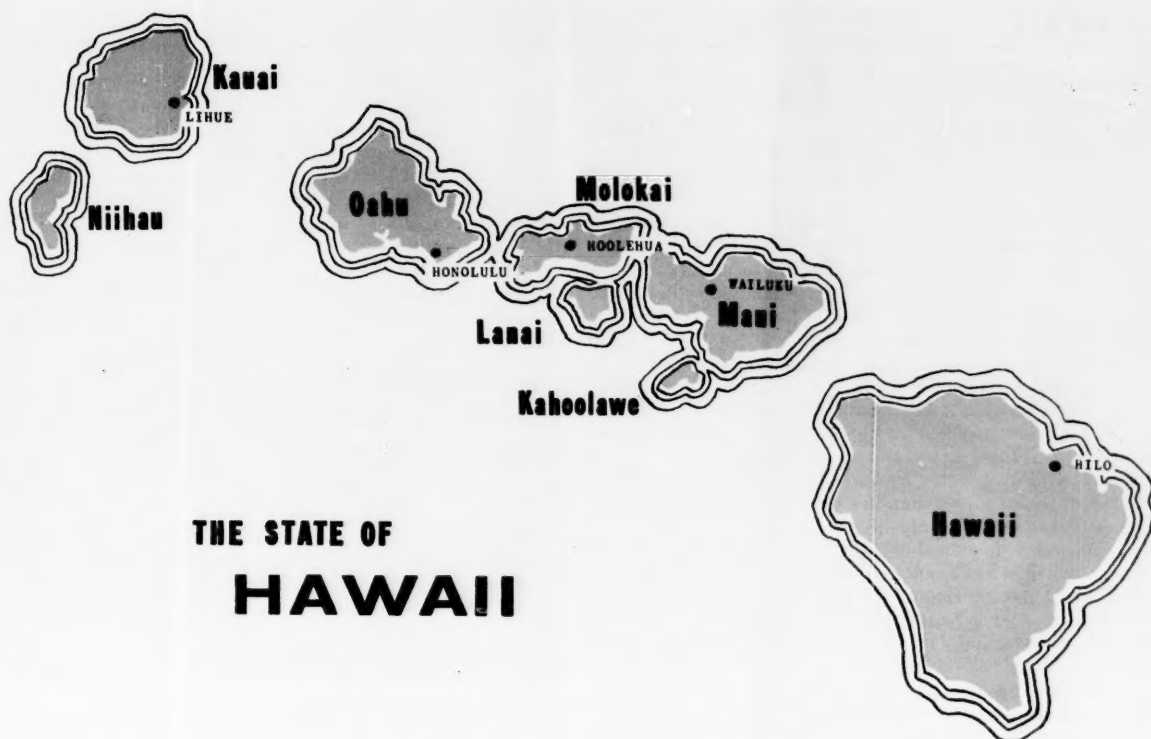
WAIKIKI. In most mainland business centers "Let's go to lunch" means a visit to the company cafeteria or the beanery around the corner. The food and surroundings may be fine, but they seldom do anything for the soul.

In Hawaii, we found, life can be beautiful, even for the businessman looking for lunch in a hurry. It's an easy 10 minute drive along a palm-fringed boulevard from the downtown Honolulu business offices to the Waikiki beach resorts.

Our host, Hawaiian Electric official Rollin Bacher, chose the Halekulani Hotel, where we sat on the lanai under a huge Hau tree. Facing the blue Pacific we watched the surf riders race in toward the white sand as catamarans unfurled their brilliant sails in the trade winds. The three-ring-circus-in-technicolor competed for attention with a menu offering varied dishes of Polynesian ancestry.

Was there ukelele music wafted in on the breeze, or did we just imagine it?





# PROPELLED IN HAWAII

Obviously, the genial Mr. Bacher didn't have much of a selling job on his hands. Hawaii's greatest natural resources—her near-perfect climate and entrancing scenery—were all around us. Her great tourist development was evident in the plush beach resorts on either side.

And her future was spectacularly portrayed by a Pan American 707 jet swinging in past Diamond Head for an approach to Honolulu International. In one breathtaking view we had a panoramic sweep of past, present, and future.

Hawaii has always been a place to capture men's imaginations. But the charm of the islands has been enjoyed by only a fortunate few.

In the early days, only the adventurous saw Hawaii. Later visitors were military personnel or wealthy vacationists. Now, the tourists come by the thousands from Dallas and Sacramento and Des Moines. But that's only the beginning.

The big boom in Hawaii is just starting. Statehood set

it off, focusing the international spotlight on the islands. Another big factor, jet travel, has just been added. Together, they add up to compelling reasons why every expansion-minded firm should take a look at the 50th state.

We won't spend any time talking about statehood—that's been publicized to the nth degree. Instead, let's look at what the jet is doing—a development many Island business leaders believe may be even more important than Statehood.

It is axiomatic that the importance of any area to the nation's economic life is, to some extent, dependent on its accessibility. This has always been a major handicap here in the Islands.

By ship, it is four-and-one-half days to California. Until air carriers were introduced, Hawaii was just too remote for any business activity which required quick connections with the mainland. Relations with East Coast cities were even more strained—it was another two-and-one-half days

by rail between California and New York.

The first break-through occurred in 1936 when air service cut the Honolulu-to-San Francisco time to 18 hours. If connections were made and the weather was good all the way, an air passenger could make it from Hawaii to New York in 37 hours.

By 1946 air time had been trimmed to twelve-and-one-half hours between Hawaii and California. Business traffic began to expand, as it became possible to visit the Island without paying too heavy a time premium. By 1956 the air time was down to seven-and-one-half hours and there was a heavy volume of commercial traffic.

Because of the time-distance factor, however, Hawaii in the pre-jet age had almost all of its business connections with West Coast firms. California, Oregon, and Washington were the frontier. Most of the Hawaiian tourist volume originated in these areas.

Now, with one stroke, Hawaii's frontier has been shifted Eastward to include the nation's biggest population centers. By jet New York is only seven-and-one-half hours. It is possible today for the businessman to have breakfast in Boston, lunch in San Francisco, and dinner in Honolulu.

This fact has enormous implications for Hawaii. Honolulu is no longer a remote city half-way to the orient. It's an American business center an easy four-hour ride from Los Angeles.

As one key businessman here put it, "We're so close now that we can be a part of the West Coast—the fastest-growing part of the nation." Another asserts "Today, even the busiest executive can find the time to come here and see for himself what we have to offer."

Certainly, a visit here is important both for you and for the new state. Tourism is the biggest boom industry and, at the same time, the most effective entré to industrial development.

### Tourism Is An Industry

The most rapid growth in Hawaii's business community is taking place in the tourist field. Waikiki Beach and Diamond Head have become symbols of vacation ambitions for people the world over.

That those ambitions are being realized more and more each year can be seen in the astonishing growth of tourist facilities and visitor expenditures.

Between 1946 and 1957, the number of visitors annually to Hawaii increased from 15,000 to more than 169,000. At the beginning of that period, tourists spent slightly more than \$6 million in the islands. In 1957, tourist revenues accounted for approximately \$77 million of Hawaii's income.

Hotel, transportation and entertainment operators are now planning for 380,000 visitors by 1962.

New areas in Oahu and on the Neighbor islands are being opened and developed for the tourist industry each month, and each month the state witnesses new mainland investment in this important segment of the island economy.

Among the prominent mainland industrialists who have invested millions in Hawaii's tourist industry are Henry J. Kaiser, Clint Murchison, Jr., and Paul Trousdale.

Hawaiian leaders are confident that the big bulge in tourism is but the forerunner of an equally important industrial growth. They know that the cycle of development in areas which have an appeal to the visitor runs something like this: Visitors begin to arrive, hotels are built, service industries spring up, and finally distribution and manufac-

turing moves in. That was the pattern in Southern Florida and it is the pattern today in Caribbean areas.

Also, island developers recognize that the best prospect for locating a business facility in the islands is a man who has been here. There is a direct relation between tourists and industrial expansion, because many projects originate from vacation visits made by mainland executives. This trend is expected to grow.

Here's a gold-plated opportunity to enjoy a vacation at company expense! Come out and spend a few days looking into expansion possibilities and then take another week to relax in the sun.

### Oahu, Population Center

Your first breath of the flower-scented Hawaiian air will be at Honolulu International Airport which is certainly one of the most hospitable anywhere. There you will receive your first lei beside the palm trees of the picturesque administration building.

Right away, you will learn that you are on the island of Oahu which is the most populous but not the largest of the Hawaiian group. Most of your business contacts will probably be here since Honolulu is the center of economic activity.

With less than one-tenth of the land area of the state, Oahu contains over four-fifths of the population and well over four-fifths of the business of the islands.

This predominance of Oahu is based on the complex interaction of many growth factors. In addition to being a significant producer of sugar and pineapples, Oahu encompasses nine-tenths of manufacturing and of tourist trade, as well as practically all of the defense installations.

It is the major port for shipping and air lines, and the central point of contact for the entire state with other parts of the world. It also is the center of government, finance, trade, services, communications, utilities, the sugar agencies, and the largest pineapple companies.

Here too, is historical ground, for on Oahu are Pearl Harbor, Schofield Barracks, Hickam Air Base—dateline of December 7, 1941. Also, here is the only throne room in America and one of its most famous playspots—Waikiki Beach.

Actually there are six major islands stretching from Northwest to Southeast over a distance of some 400 miles. The Northernmost island is Kauai and Oahu is next. Honolulu is on the South side of Oahu.

### The Neighbor Islands

It's an easy one-hour hop from Honolulu to Hilo, second largest city in the state and the center of activity on Hawaii, the big island.

Hawaii is roughly twice as large as all other islands in the state combined. It contains the widest range of climate, soil, altitude, and living conditions. It is the biggest producer of sugar and cattle, and the only island on which coffee is grown.

Known as the "Orchid Island," it offers outstanding historic interest. Hawaii was the birthplace of Kamehameha the Great, the island on which he first rose to power, and the one on which he died.

It was the scene of Captain Cook's tragic death and it was the first landing place of missionaries who brought both Christianity and American traditions to the archipelago.

The island's scenery ranges from the primeval loveliness



Among newcomers there is a lot of confusion concerning "Hawaii." Actually Hawaii is the name of the largest island in the group—the one lying to the Southeast. It features famed volcanic mountain, Mauna Loa, as well as many tranquil and scenic spots favored by visitors who want to get off the beaten track (above). Honolulu, the largest city in the Hawaiian group, is located on the island of Oahu.

of palm-bordered beaches to the grandeur of restless Mauna Loa towering nearly three miles above the sea. Its most enticing charm lies in the quaint, idyllic life of native islanders who live along its shores in much the same tranquil manner as that of centuries ago.

But Hawaii is today more than a storybook tropical island. Hilo is an American city eager for self-improvement.

The county planning and traffic commission is concerned about a land boom which has resulted in some 50,000 new subdivision lots in the past year and a half. There is an aggressive industrial development program with an industrial district being planned adjacent to the airport. Here, as on other of the Neighbor islands, leaders are certain that they will enjoy the impact of the second stage of Hawaiian growth, just as Oahu has felt most of the initial stage.

Lying between Hawaii and Oahu are Maui, Lanai and Molokai. I. D.'s editor selected Maui at random for a closer look at development efforts and prospects on a typical island in the group.

#### **Maui Island, U. S. A.**

Except for the scenery, our visit to Maui was much like that to any alert community or area on the mainland. We were met at the airport at Kahului by Ray Allen, now the executive secretary of MEDA, the Maui Economic Development Association. Allen is a former chairman of EPCA and a man of 45 years experience in Hawaiian affairs.

We sped along excellent paved roads to downtown Kahului where we met H. C. Jackson, president of the Kahului Development Company, and a member of the state Senate. Jackson gave us a rundown on impressive housing development designed to provide new homes for several thousand workers.

Looking into the future Jackson sees tourism as one of

Maui's greatest opportunities. "Our relation to Oahu is similar to that of the Bahamas to Florida," he explains. Jackson also feels there are other opportunities such as producing citrus for local consumption, tree farming, and utilization of agricultural by-products.

Our next visit was to the office of the chairman of the Maui County Board of Supervisors, self-described "Friendly Eddie Tam." Tam sounded very much like any county official discussing financial problems and extension of utilities. He has shown his interest in development by extending paved roads to an area across the island where a large hotel project is anticipated.

Our host for lunch in Maui was Admiral R. R. "Doc" Lyons, manager of Maui Electric Company and president of MEDA. Undoubtedly he holds a position which is the envy of utility executives throughout the nation.

Lyons lives in a home some 2,000 feet up on the slope of Haleakala, one of Maui's two towering mountains with a breathtaking view which commands the valley and harbor. His company has expanded rapidly, from a capitalization of \$750,000 in 1947 to \$6 million in 1957.

The Rotary Club group with which we met at the Maui Country Club was made up of sugar plantation officials, local merchants, as well as personnel from the missile tracking station atop a nearby mountain. The Chamber of Commerce manager was just back from a visit to the mainland and had a report to make on his efforts to focus attention on Maui.

We looked at some of the area being considered for future development on Maui with K. H. Berg, manager of the Pioneer Mill Company, acting as our escort. Of particular interest is a beach development, Kaanapali, in which his company has already invested several hundred thousand dollars. This is a boldly-conceived project which could well

# MAUI WANTS INDUSTRY TOO!



Admiral R. R. Lyons



Ray Allen



Douglas Sodehani



H. C. Jackson



K. H. Berg

While the greatest concentration of development today is centered around Honolulu on the island of Oahu, the Neighbor islands are determined to earn a big share in the future growth of Hawaii. There are a number of alert and aggressive development groups scattered throughout the Hawaiian chain. Outstanding among these is MEDA, the Maui Economic Development Association. MEDA's executive secretary is Ray Allen, a veteran of 45 years in the islands and a former chairman of EPCA. Allen works closely with such key men as retired Admiral R. R. "Doc" Lyons, a former Navy carrier skipper who now manages the Maui Electric Company. Close liaison is maintained with Maui business interests such as Kahului Development Company managed by H. C. Jackson; Maui Realty, operated by the Sodehani brothers; and Pioneer Mill Company, of which K. H. Berg is manager.

result in one of the most outstanding tourist attractions in the Hawaiian group.

Starting with a completely "raw" beach area near the little town of Lahaina, Berg retained the Bartholomew planning firm about three years ago to prepare a master plan. The initial study involves several hundred acres of choice beach property which will be comparable with Waikiki in every respect. Several of the major hotel operating firms have already looked at the site and an announcement is expected soon.

For a line on real estate transactions, we interviewed Douglas Sodehani of the Maui Realty Company. We learned that there are about five active real estate brokers on the island handling perhaps a dozen transactions a month. Speculative activity is high, with many investors feeling that Maui will be the scene of the next major boom in the Hawaiian islands. One Colorado businessman just recently bought 250 acres of cattle land on Maui paying \$250 per acre.

Altogether, we were impressed with the caliber of people who are spearheading development programs on Maui and on the other Neighbor islands. In many cases they are planning better and building more carefully than are mainland communities.

We were impressed, too, with the fact that the Neighbor islands constitute a frontier within the new state. We were told that 80 per cent of the citizens of Oahu, for example, have never visited Maui! Hence there is a big tourist potential right here within the islands.

The scenery everywhere is unforgettable. ID's editor, a pilot for some 20 years, will never forget circling some of the volcanic isles a few hundred yards offshore and looking at the jagged coasts, plunging slopes, and dense forests from an altitude of 500 feet.

Another fascinating part of the chain is Kauai, "the Garden Isle," at the northwest extremity of the island group. It is composed of a central mountainous mass surrounded by fertile coastal plains. Population is thus distributed in a crescent along the coastline. Its principal products are sugar and pineapples and, to a lesser degree, cattle and truck farm crops.

Its history lends special interest. Kauai contains the clearest traces of the Menehunes, first inhabitants of Hawaii. In island legends, they were pixies who performed prodigious feats with amazing speed. Native Hawaiian culture is linked more closely with its Tahitian background in the traditions of Kauai than of other islands.

Captain Cook made his first landing on Kauai where he was welcomed as a god. The bastions of a Russian fort over a century old form a grim reminder that Russia once reached out for Hawaii. And it was on Kauai that the Hawaiian sugar industry had its beginnings.

## Building The Industrial Base

Most mainland business executives will be surprised to see how far industrial development has already proceeded in Hawaii. Between 1940 and 1950 revenues from manufacturing were increased by more than 730 per cent.

Since 1950 when the population increased 26 per cent



gross Hawaii product has come up 57 per cent, leading to an increase of personal income of 66 per cent. By 1958 at least 75 national brands were being manufactured here.

Hawaii's manufacturers include such well-known names as Swift, Simmons, Serta, American Can, Flintkote, Flexalum, Meadow Gold and Foremost. Of course, virtually every soft drink known in the rest of the country is made in Hawaii—the country's leading per capita soft drink consumer.

During 1956, 526 manufacturing companies in Hawaii employed 21,765 persons. Some 239 of these industries processed food and related products, while the printing, publishing and garment industries accounted for another 121 businesses.

Textiles, milling, lumber, furniture, paper, chemicals, leather, building materials, primary and fabricated metals, machinery, transportation and professional instrument manufacturing industries accounted for other important parts of the total. Twenty firms were engaged in manufacturing miscellaneous products ranging from musical instruments to morticians' goods.

Hawaii's industrial growth since early 1955 has been marked by two central trends; an increase in Mainland investment, and an effort to displace imports with local production. Mainland participation in this growth has taken the form of an investment of management skills as well as dollars.

Construction is one of Hawaii's top growth industries. The upsurge started in 1956, with a 17 per cent gain over the previous year in construction put in place. In 1957, another gain was made—21 per cent over the 1956 total.

For 1958, \$174 million of construction put in place established an all-time high—30 per cent ahead of 1957, and 82 per cent above the 1951-55 average of \$95.7 million annually. And the boom, economists believe, is only in its early stages.

The current year should see a new record of around \$200 million for the industry and an annual average of \$230 million is projected for late Sixties.

Noting Hawaii's fast-moving construction market, two groups are now building cement plants on Oahu. One facility is being erected by Dillingham interests and another by the Kaiser group. While there is considerable doubt in the business community as to whether the Hawaiian market of today is big enough to support two profitable plants, there is little doubt that it soon will be. Increased competition will undoubtedly lead to a rapid rise in per capita cement use.

Other industries which have appeared as a result of the construction boom include such firms as Concrete Engineering Company, Honolulu Wood Treating Company and Transit Mix Concrete.

Many other new industries have been formed to take advantage of the freight rate structure as it affects certain products. These industries find that it is more feasible to import bulk raw materials for processing in the Islands, than to ship finished products from the Mainland to Hawaii. Among the industries in this group are: Lacy Manufacturing Company's galvanizing plant, manufacturing products such as water heaters and garbage cans; Weyerhaeuser Hawaiian Company, manufacturing boxboard and fabricated finished boxes; The Honolulu Gas Company's benzene purification plant; Swift and Company, which operates a \$750,000 plant producing bacon, frankfurters and other meat products; Serta and Simmons mattresses and box springs are manufac-

tured by two island plants; and Kentron-Hawaii, manufacturing television tubes and planning to produce other electronic products.

A third advantage Hawaii offers new industries is the large market related to the military establishment in the Islands. Recent additions to Island industries designed to service the military market are: an \$80,000 abrasives plant, constructed by Honolulu Construction and Draying Company, to produce sandblasting materials for the Armed Services; a branch plant of Lockheed Aircraft Service, Inc., for the maintenance and overhaul of Navy aircraft, employing 900 persons.

Military encouragement has also given rise to serious consideration of the establishment of a drum reconditioning plant and a coffee processing industry.

Important in any accounting of new Hawaiian industries are those which take advantage of the climate and exotic legend. There are numerous firms in the fields of food processing, clothing and craft manufacture. Among recent additions are: Royal Hawaiian Manufacturing Company, designing and manufacturing Hawaiian style dresses and shirts; Hawaiian Juice Industries, processors of such tropical fruits as guava and passion fruit; and Island Slipper Factory, manufacturers of slippers and sandals of Hawaiian and Oriental design.

### Steel Mill Plan Sets The Pattern

Without doubt, the most outstanding case history of industrial development unfolded in the islands to date is that of the new Hawaiian Western Steel, Limited. This is a new venture which offers a classic pattern of development from the idea stage through promotion, negotiations and actual operation.

While the possibility of establishing a small semi-integrated steel mill in Hawaii had been recognized prior to 1955 by persons close to the metals field, the project received vital impetus from a report prepared by Stanford Research Institute for Hawaiian Electric Company titled "A Study of Industrial Opportunities on Oahu."

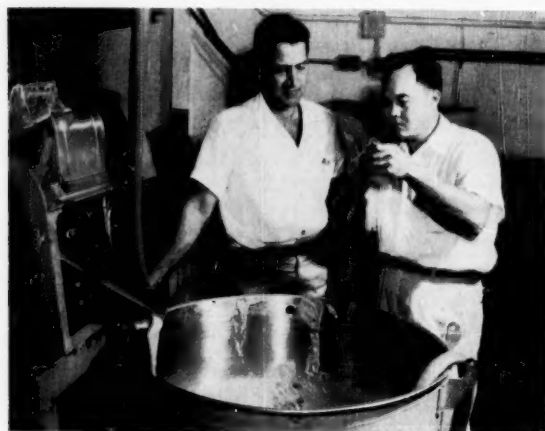
Key man throughout the undertaking was Rollin Bacher, Hawaiian Electric industrial development specialist. He saw the merit in the Stanford study, exploited its possibilities, and finally brought together the interests which could make the mill a reality. Here is a quick rundown on the case:

In developing the criteria for the mill's economic justification, there were several strong points favoring it. The first was a substantial freight charge of about \$26.00 per ton on the finished product (reinforcing bar), using the establishing base of Sparrow's Point, Md., common to Hawaiian steel consumers. The second was the fact that it was strongly believed that Hawaii was producing about 45,000 tons of scrap annually, about half of which was suitable for electric furnace use and all of which was being exported by charter bottoms to foreign countries. The third point was the fact that there was a local market of some 15,000 tons of reinforcing bar annually (which proved later to have been underestimated).

The choice of whether to promote interest in a steel mill or in another industrial development was purely arbitrary but was based on the belief that if it could be successfully established, Hawaii would gain a basic industry and therefore a primary employer and, secondly, it would be a dramatic demonstration of the effectiveness of The Hawaiian Electric Company's industrial development program.



A substantial apparel industry has developed in Hawaii with major products including Aloha shirts, Muumuu's (that's the gaily flowered Mather Hubbard type dress worn by about one-third of the ladies you see on the sidewalk), and a host of other Hawaii-styled garments. This photo was made in the plant of Shaheen's, a fast-growing Honolulu firm.



Another important home-grown Hawaiian industry is that based upon processing unusual food products. Here pure Hawaiian cane sugar is added to passion fruit juice prior to canning.



Swapping congratulations on the start of operations of Hawaii's first steel mill are (left) Rollin Bacher, the energetic industrial development specialist of Hawaiian Electric and (right) Phil Spalding prominent Hawaii industrialist and president of the new firm.

In 1955 and again in 1956 two "prospecting" trips were made by Bacher to explore interest in the idea along the west coast. At the outset, it was a conviction that the larger mainland companies would have no interest in the Hawaiian mill prospects. This assumption proved correct and even the Kaiser interests, who were busily building the Hawaiian Village and using their own Permanette cement, showed no interest in the industrial development of Hawaii. This proved to be the case with contacts made with the Corporation and also with Bethlehem Steel Corporation.

Among those contacted and who expressed varying degrees of interest were a number of the smaller companies, including Gilmore Steel Company, Southwestern Steel Rolling Mills, and an individual who was engaged in the scrap business in Oakland, California.

The interest was sparked in two ways. The Matson Navigation Company took a hand early in Hawaii's industrial development and publicized The Hawaiian Electric Company's report, as prepared by SRI. Their trade publication reached some 3,000 shippers throughout the mainland and resulted in numerous inquiries to HECO's Industrial Development Section for copies of the report. Articles in the business press brought additional expressions of interest.

Officials of the Western Canada Steel Company, Vancouver, B. C., upon seeing one such article, wrote the Company saying, in part, "There is just an outside possibility that some surplus equipment we have here might form a nucleus for the sort of operation . . . described in the article. . . ."

This letter, dated March 22, 1957, was the opening of correspondence between Western Canada Steel Company and the Industrial Development Section of The Hawaiian Electric Company which covered all phases of a preliminary examination of the project. The steel company's interest was kept completely confidential, even within HECO, until November 1957, nine months after the initial inquiry, when the Production Manager of Western Canada Steel arrived in Honolulu to make an on-the-spot investigation of the feasibility of the project. His visit in Honolulu, covering a full working week, was arranged by HECO's Industrial Development Section and was conducted with great discretion.

Two of the Canadian company's directors took winter holidays in Honolulu during December and January, at which time they were fully apprised of the project in all its ramifications. Finally, in February 1958, nearly one year after the original correspondence had begun, the Vice President and General Manager of the Canadian steel company came to Honolulu in order to make the decision as to whether the project should go further.

During his visits with leading Hawaiian industrialists, ways and means were worked out which would provide for half of the financing to originate from Hawaiian sources. The Canadian company would provide as its equity, know-how and equipment, as well as capital. The resulting amalgamation ultimately produced the Hawaiian Western Steel Company, as announced in the Honolulu papers on October 13, 1958.

However, between February 1958, when the General Manager of Western Canada Steel arrived for his first visit to Honolulu, and October 1958, when public announcement of the project was first made, some major problems were encountered and solved.

To begin with, it was the firm conviction of the principal Hawaiian investors that a project leader was needed. Up to

this time, or for the period between mid-1955 and February 1958, the entire promotion was under the guidance of the Industrial Development Section of The Hawaiian Electric Company. Together with interested investors, it was mutually agreed that Philip E. Spalding, Jr., a young, aggressive, Honolulu businessman, would be ideally suited to head up the project.

Close liaison between Spalding and the Industrial Development Section, as well as top officials of The Hawaiian Electric Company, continued thereafter until October 1958, when announcement was finally made. During this period, the major problem of an adequate site, properly related investors and future customer relations were thoroughly investigated. This amounted to a reassessment of the feasibility of a semi-integrated steel mill for Hawaii in the light of the capital formation which appeared necessary.

When ID's editor visited the mill in September, 1959, the mill was in operation—and President Spalding was in a mellow mood. "The market looks better than we thought—we'll come up to plant capacity sooner than planned," he told us.

"Next move, set for 1960, is the installation of an arc furnace so we can make our own ingots," Spalding continued.

Obviously, local developers hope to repeat this success story in countless other fields. Already they are exploring a variety of specific opportunities.

This quest for new opportunities is being carried on not only by industrial development specialists but by the executive heads of the established firms in the islands. An example of the latter is Malcolm MacNaughton, executive vice president of Castle and Cooke, Inc. Under MacNaughton's leadership, Castle and Cooke has been busy exploring a variety of opportunities for diversification. This thinking dates back some 12 years when the company organized Hawaiian Equipment Company, a \$6 million per year sales firm today.

In recent years Castle and Cooke has invested heavily in research and experimentation with the production of Macadamia nuts. This is a nut having an unusual flavor which has been marketed very successfully in ice cream and other products.

A site of nearly 3,000 acres was selected near Hilo on the island of Hawaii and about 1,000 acres have been cleared. Total investment to date is more than \$2 million.

MacNaughton surmises that the project will be in the red for about 3 or 4 years but he expects to earn \$300,000 per year after taxes when the trees reach maturity (8 to 10 years). MacNaughton has also explored electronics manufacturing possibilities and is looking at other property with resort possibilities.

Among other opportunities for industrial diversification in Hawaii—as identified by SRI—are specialized chemicals, food processing (including such unusual products as papaya, passion fruit, water chestnuts, Cacao and litchi), jewelry, perfume, novelties, plastics, paper and meat products.

Expressing optimism concerning opportunities for moving into new fields Thomas K. Hitch, one of the top experts on the Hawaiian economy, notes that within a few short years the islands have established such new activities as electronics, plastics, oil refining, textile finishing, paint making, galvanizing and fiberglass production.

George Mason, whose optimism is based upon a good many years of intensive study of Hawaiian opportunities, says "We may soon have a sizable mining industry. The dis-

covery of aluminum ore and titanium in recent years particularly intrigues us because until 1953 every statement on the economy of Hawaii stressed that we had no mineral resources."

Mason cautions against taking anything for granted here because "new opportunities keep cropping up—one new business begets another."

A recent study of future trends in the Hawaiian economy has just been released by the Bank of Hawaii. President Rudolph Peterson lists these basic factors which will affect growth during the '60's.

1. The rise of retirement communities, 2. New developments in agriculture, 3. New industries, 4. New forms of energy and mechanization, 5. New developments in national defense programs, 6. New tourist patterns, 7. The growth of Hawaii as a research center, and 8. Recognition of Hawaii as a cultural center.

Peterson emphasizes another factor which may also be important in Hawaii's future development—the attitude of its financial institutions. "Here we enter more actively into the early stages of a situation—we actually help the entrepreneur put the parts together," he says.

A former Californian, Peterson asserts that "the spirit of enterprise here is just as strong as it is on the coast." He points out that a large portion of the Bank of Hawaii's small business loans are in the \$15,000 to \$25,000 range, indicating that small investors are willing to enter upon new ventures.

Many observers here believe Hawaii has a substantial future in the space-missile field. Already, there are two tracking stations, one at South Point on Hawaii and the other at Kaena Point on Oahu. Hawaii leaders here point out, is best situated for tracking missiles in orbit around the poles, along a North-South axis.

## A Market To Study

In studying the various location factors in Hawaii the one that creates the most argument here is markets. You will find some businessmen who are excitedly enthusiastic about Hawaiian markets and others who are distinctly pessimistic. These differences stem directly from the fact that Hawaii offers great promise in some fields and very little in others.

Hence it behooves you to be particularly careful in studying the potential of the Hawaiian market. You can't afford to take anything for granted—if you do you may find yourself trying to serve a market that doesn't exist or overlooking a bright new opportunity.

In terms of retail sales, Hawaii ranks ahead of some of the mainland states. In per family buying power, Honolulu leads such cities as New York, Boston, Dallas, Los Angeles, Milwaukee and Minneapolis. Oahu is ahead of the national average in terms of per capita income, automobiles per 1,000 population, use of electricity, and purchase of refrigerators.

Among the 200 largest counties in the nation, Honolulu is listed as 49th in restaurant sales, 71st in general merchandise sales, and 75th in service station sales. It is obvious, therefore, that the local market is of high quality.

In terms of size, Hawaii is comparable to one of the smaller New England states. The total population, including military personnel, is around 600,000.

This population is behaving very much like that on the mainland—moving to the suburbs and shopping in new market centers. Here the similarity ends, however. In any



Eastern U. S. location a market is made up of a central concentration and various fringe areas. Here there are no fringes—just water.

True, there are somewhat similar market centers in the mountain states where population centers are surrounded by areas that are largely uninhabited. These similarities have been pointed out by veteran plant location consultant Stuart Walsh. But no mainland markets have the finite limitations that are to be encountered here. When you plan a new venture in Hawaii it must be sustained by the Hawaiian market—or else.

This means that with respect to opportunities for new manufacturing ventures the situation is very spotty. In many industrial categories a market of less than one million simply will not sustain a minimum practical operation. In other fields there is a distinct opportunity for a small plant but not for two units. Thus the first firm in takes the whole market.

In still other fields, there are distinct opportunities for expanding mainland firms to move in here and find their place in a high quality market that is sure to grow steadily. Hence Hawaii should be a happy hunting ground for market research crews for years to come.

### Labor: Accent on Youth

In comparison with mainland averages, Hawaii offers a younger, more rapidly growing skilled labor force representing a higher percentage of total population. A broad selection of young men and women skilled in a wide range of fields is available. The labor force of the islands in 1957 averaged more than 204,000—37 per cent of the total population.

Government, wholesale and retail trade, agriculture, and manufacturing are the largest areas of employment activity. Service industries, finance and insurance, transportation, construction, and domestic services, in that order, account for the remainder of the work-force.

Some 41.5 per cent of the Hawaiian population is under 18 years of age. A recent study reveals a median age of 24.5 years. This means that firms locating in the islands may anticipate a wave of new employable citizens during the coming decade.

These young people, while representing many racial backgrounds, are just as American as those found anywhere on the mainland. They are well educated and willing workers.

The Hawaii Employers Council estimates that these new workers will total 73,540 during the years from 1959 to 1972—an average of more than 5,000 each year. Moreover, this is a new work force which will gain rapidly in skill.

In 1952, 47 per cent of the island's high school graduates went on to further schooling, in colleges and business and technical schools. By 1957 that figure had increased to 50 per cent. In addition to those who went on to further schooling, many graduates entered the armed forces. Only 17 per cent entered the labor force directly after leaving high school.

Pay rates in Hawaii are generally lower than mainland equivalents. In 1957 the average weekly wage for all non-agricultural activity in Hawaii was \$65.38 while the mainland average was \$84.18.

Clerical salaries are slightly higher than those found in some East Coast cities, and approximately the same as rates offered in major West Coast centers. Salaries in the professional, financial and insurance fields compare favorably

with mainland rates.

Under the Federal Wage and Hour law, which applies in Hawaii as it does on the mainland, the minimum wage for all persons in industries engaged in interstate commerce is \$1 per hour. The island minimum wage of \$1 applies for those industries which do not come under the Federal law. The Hawaii law permits a maximum of 40 hours work each week at the minimum wage before overtime pay begins.

During the post-war years unionization has been rapid in the islands. Unions are strong in transportation, stevedoring, hotel service, and even in agriculture. In order to contend with this situation there has been organized a very effective Hawaii Employers Council which works continuously to maintain good union-management relations.

If this factor is important to you, you should contact the Council for copies of its reports on such subjects as pay rates, personnel practices, strikes and work stoppages, employee benefit plans, contract clauses, and labor laws and regulations.

Education is heralded as Hawaii's biggest growth problem and, at the same time, its greatest opportunity. Almost 30 per cent of Hawaii's total population today is in class rooms!

School enrollment on the mainland between 1910 and 1950 increased 41 per cent while in Hawaii during the same period it increased 365 per cent or nearly 9 times as much!

Hawaiians are now facing up to the necessity for a great expansion of post-high school facilities including community colleges and vocational and technical facilities. Certainly expansion in these fields will provide a sounder base for the hoped-for development of new scientific and technological enterprises.

### Community Characteristics—A Way of Life

George Mason ruefully admits that one of his big problems in promoting industrial development here is overcoming the erroneous ideas that many Eastern businessmen have about the islands. Recently, for example, in New York a highly placed executive asked him how much real influence Hawaii's royal family still had!

In Chicago, a newspaperman, on learning that the only language that Mason understood was English, wanted to know how he could possibly hold a responsible job. And, it is not at all uncommon for the Governor's office to receive letters from the mainland addressed to the "American Embassy, Honolulu."

It comes as a distinct surprise to many executives to learn that Hawaii is a modern state well ahead of many mainland areas in terms of city planning and civic leadership. Schools, parks, roads, churches, hospitals, and police and fire protection are on a par with mainland standards.

The State Department of Public Instruction operates 205 schools, including special and technical training facilities. Private schools in the Islands number more than 125.

The University of Hawaii, a land-grant institution, operates five colleges and a graduate school. Total enrollment in 1958 exceeded 7,000 students, some of whom attending evening classes offered by the University Extension Division.

Five other college level institutions, five business schools, and a number of specialized technical training schools add to the educational facilities of the Islands.

Twenty-five civilian hospitals and a number of nursing and convalescent homes provide medical services in Hawaii. In addition, the Armed Forces operate the 1,500-bed Tripler Army Hospital.





Hawaii has an outstanding public school system with the same growing pains that are to be found in boom areas on the mainland. This is the impressive Waialae High School on Oahu.

Public parks, playgrounds, beaches and other recreational facilities dot the Islands. In Honolulu, there are more than 170 recreational areas maintained by the City. Hawaii National Park includes areas on the Islands of Hawaii and Maui, and is a major attraction for tourists.

Police and fire protection is provided on all Islands. The Honolulu Police Department, operating with modern equipment, includes more than 430 officers and 200 reserve officers. The City Fire Department operates 29 fire stations on Oahu with a force of more than 400 men.

Some of the operations are unique. For example, the police department of Maui County is responsible for 3 islands separated by a good many miles of Pacific Ocean. On a flight between Maui and Molokai Chief Jean R. Lane told I.D.'s editor of some of the problems which arise because of the unusual topography.

Sewerage and refuse collection services are, of course, provided in the Islands.

Honolulu's water system is regarded as unusually dependable because it is built about six independent powered stations and because it is connected with the Pearl Harbor system which could feed water into Honolulu lines in an emergency.

Home owners in Hawaii enjoy a freedom from natural restrictions, as well as an abundance of natural advantages, that have given Island homes a character all their own.

Homes are set off by lush tropical fruit and flowering plants that are made all the more enjoyable because the Islands are free of snakes and other animal pests. The surrounding sea and extremely effective control measures have virtually eliminated mosquitoes and rodents from most residential areas.

Football, basketball and baseball seasons in the Islands produce the color and excitement known everywhere in the nation. Excellent camping, hiking, hunting, and fishing facilities are available throughout the Islands.

Organized recreational programs for all ages are offered by Honolulu's Board of Parks and Recreation.

Three commercial television stations, four television satellite stations, 15 commercial radio stations, and two educational radio stations operate in Hawaii. One of the three television stations is equipped for color transmission.



Cultural interests are nurtured by a variety of programs in the islands. Of course Hawaii offers an unparalleled opportunity for study of the many Pacific basic cultures represented in the population mix. Here a typical informal Hawaiian audience attends a concert at Waikiki.

The Islands are served by 23 newspapers, seven of which are dailies. They are served by the Associated Press, United Press, Chicago Daily News Service, Newspaper Enterprise Association, North American Newspaper Alliance, International News Service, and their own Washington Bureaus.

The 90-piece Honolulu Symphony Orchestra offers a regular schedule of winter and summer concerts, many of them featuring internationally known guest artists. On the lighter side, the city's famous Royal Hawaiian Band appears in frequent concerts.

Outstanding among several amateur theater groups are the Honolulu Community Theater and the University of Hawaii Theater, both of which have developed reputations for outstanding performances of latest Broadway hits.

The Honolulu Academy of Arts is the art center of the community. In addition to its permanent collection of European, Oriental and Hawaiian art, the Academy offers frequent special exhibits and a broad educational program.

Sociologically, Hawaii is certainly our most unique state. Its population represents an unusual racial blend living in evident harmony.

As Governor William F. Quinn puts it "We have two types of rather ideal climate—our physical climate and our sociological climate. Our unique representation as a harmonious racial and cultural meeting place of many races is a big plus when it comes to offering to new industry the opportunity to enter here. It is a favorable social condition that helps to encourage a better business climate."

Sociologists are still pondering the results of Hawaii's first major election. Consultant Robert S. Craig has undertaken a comprehensive study to determine how the various ethnic groups voted. Preliminary data reveals that voters ignored racial backgrounds in their selection of key officials to a very surprising degree.

If you expect to occupy a new home in Hawaii, you will find a good selection in bright new subdivisions representing the latest in planning ideas. One of the most pleasant visited by I.D.'s editor was Waialae Kahala, which lies north of Diamond Head. Planned by Bartholomew and developed by the Bishop Estates Leashold five or six years ago, the area features beautifully-planned homes amid lush tropical planting on wide streets with all utility services.

During the week of this visit, Bishop Estates announced

plans for another \$300 million residential development calling for 12,000 homes and a 150 acre area for light industry.

Most of the construction in the newer subdivisions involves redwood and other lumber brought in from California, Oregon, Washington, and Western Canada. Prices of lumber shipped in from the West coast seem to be about the same in Hawaii as on the East coast of the mainland. There is a tendency, however, to use the more expensive grades here because of the nature of the construction—often a single one-inch board serving as inside and exterior wall surface.

Your wife will also find that shopping facilities here compare favorably with those on the mainland. In fact, the new \$28 million Ala Moana center between downtown Honolulu and Waikiki is one of the most impressive your editor has seen anywhere. Because downtown land costs are high the entire parking area was double-decked.

Ala Moana, one of Lowell Dillingham's projects, features a large new Sears, Roebuck store and a variety of names familiar on the mainland. The supermarket is really "super" and the shelves contain a maze of foods that would dazzle the mainland housewife. This is due to the fact that stores here must cater to shoppers of Hawaiian, Chinese, Japanese, Phillipine and other backgrounds.

Displayed in the most modern surroundings are such items as bamboo shoots, water chestnuts, bitter melon, Hasa, Santa Claus melon, See Qua, long beans, Won Bok, Pak Choy, celery root, eels, seaweed and dried shrimp.

Speaking of food, you'll find pineapple on the menu of every meal. You will enjoy the big wedges for breakfast, a slab of pineapple in your iced tea at lunch, and possibly a pineapple desert after dinner.

If you hop the local airlines you'll be offered a cup of pineapple juice rather than some other refreshment. The sale of mixed drinks, incidentally, is legal on all of the islands.

Clothing here is pretty much the same as summer clothing anywhere on the mainland, with one exception—the muumuu. This is the all-encompassing Mother Hubbard dress which is worn by possibly one-third of the females you see on the sidewalks. Colorful leis are worn for any festive occasion—sidewalk stalls offer beautiful orchid creations for as little as a dollar.

### The Climate—Nearly Perfect!

Next time your travel plans are fouled up by poor flying weather ponder the fact that the Honolulu airport has never been closed by weather for more than an hour at a stretch! Literally, the weather is good here just about 365 days per year.

The uniformly good Hawaiian weather stems from the fact that the islands are a very small land mass situated in the middle of a huge reservoir of relatively warm water. There is simply no way for bad weather to develop.

As one Navy carrier skipper put it "We can just have our weather officer mimeograph the forecast and hand us a copy each morning." Usually the weather forecast in the Honolulu newspaper offers this: "Brisk trades and mauka showers."

To the native, this means a brisk trade wind from the Northeast which will produce a few afternoon showers in the mountains. You can almost set your watch by it.

The highest temperature on record here is 88 degrees and the lowest 56. The average monthly temperature ranges from 67 in January to 83 in August. Obviously there is not much

market for heating and air conditioning equipment.

The mild temperature of the Islands is complemented by stable sunshine and rainfall patterns, and by a natural air-conditioning system in the form of the gentle trade winds.

Honolulu has 286 days of sunshine and 79 cloudy days during the average year. Average rainfall in the city amounts to less than 24 inches per year.

Temperature and rainfall patterns, of course, vary according to location and altitude. Mountain heights and deep valleys receive more rain than coastal areas. In fact, Mt. Waialeale on Kauai is the wettest spot on earth, receiving more than 407 inches of rain in the average year. Puako on the Island of Hawaii, where less than 9 inches of rain falls during an average year, is the driest area in the Islands.

Temperature decreases at higher altitudes. Snow falls on Mauna Loa, Mauna Kea and Haleakala mountains during winter months.

It is no surprise that Hawaii is a remarkably healthful place to live. The mild climate has led to a boom in facilities for retired people.

Also, Hawaii is free of many of the diseases which are usually considered to be prevalent in tropical areas. There has been no smallpox for 44 years, no typhoid deaths for 10 years, one dyptheria death in 12 years, no malaria and no yellow fever.

Even your dog will like it here, since rabies is unknown (to be sure that it stays that way, dogs coming into the islands to live are kept in quarantine for 4 months).

### Raw Materials and Resources

Aside from its internationally-heralded climate, Hawaii is not richly endowed with natural resources. From an industrial development viewpoint, the most important raw materials are those produced by agriculture, specifically sugar and pineapple.

With some 17,000 employees, Hawaii's 27 sugar companies produced about \$145 million worth of raw cane sugar last year. This is not a growth industry, however, and increase of employment in this area is not to be expected. The best hope is that new by-product developments such as the conversion of sugar cane waste (bagasse) into paper will hold employment at or near present levels.

The pineapple industry has an annual output of about \$115 million and provides employment which varies from 10,000 to 20,000 according to season. Livestock production, produce, and coffee are other major agricultural products.

From the viewpoint of minerals, Hawaii has large quantities of lava ash and rock which may be used in building materials. There have been recent discoveries of titanium and bauxite. Limestone is quarried on a substantial scale and there are limited clay deposits.

There are large supplies of fresh water on each of the major islands. This is a natural result of Hawaii's location and the physical factors of the islands. Moist tropical air rises along the slopes of the extinct volcanoes, precipitation occurs and the rainfall finds its way into subterranean reservoirs. Ground-water resources are virtually unlimited in many areas. Moreover, Hawaii's water undergoes a natural purification process which minimizes the need for adding chlorine and other chemicals. Calcium content is low and softening is unnecessary.

Looking to the future, local developers believe Hawaii

may eventually be able to produce significant quantities of timber for building materials and other wood products. Tropical hardboards and some of the softer woods such as Eucalyptus are said to grow faster here than anywhere on the mainland.

### Transportation

As trite as the expression may be, the best description of Hawaii is "Crossroads of the Pacific." Since the days when whaling vessels had their bases here the Hawaiian group has been a stopover for travel throughout the Pacific.

Geographically the hub of the Pacific, the islands are linked with countries around the great basin by eleven major airlines. There are some seventy commercial flights each week to the mainland alone.

Eight major steamship lines call regularly at the Port of Honolulu, with frequent sailings to all major ports on the East and West coasts of the U.S.A. and the Orient. Despite airline expansion, passenger service by ship is increasing steadily. For example, in 1956 ships called at Honolulu on the average of every 4.4 days. Last year passenger vessels docked every 2.3 days.

Cargo-wise, Honolulu harbor had a peak season last year, surpassing even the high wartime levels. Over 2 million tons of cargo were handled by one local stevedoring firm alone.

Freight rate structures are much too complicated for a detailed discussion here. However, you may get some idea of costs from a few examples:

Air freight per pound for cargos over 100 pounds is carried at about 71 cents to the West coast and at about \$1.01 to New York City. For cargos over 440 pounds the rate is 46 cents to the West coast and 73 cents to New York.

For surface transportation (ship) the total cost in dollars per 2,000 pounds or 40 cubic feet was reported at \$22.08 to the West coast and \$40.26 to either the Gulf coast or East coast.

Within the islands, there is a unique transportation system. You can understand this best if you picture the 48 mainland states as 48 individual islands separated by trade-wind-tossed channels.

This is one of the reasons that it is said that islanders use airplanes as mainlanders do taxis. Honolulu's international airport with 275,376 operations last year was the 8th busiest in the nation. Two local airlines, Aloha and Hawaiian, carried 635,659 passengers on inter-island flights.

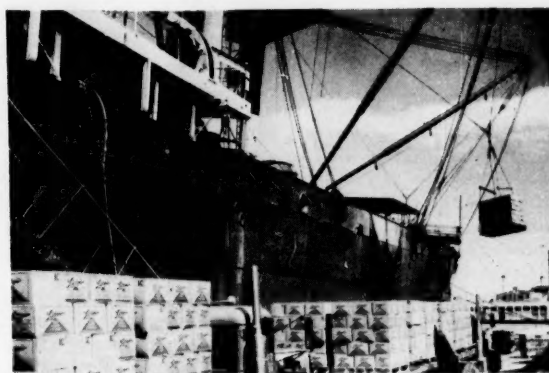
These local airlines, incidentally, are just as alert as any you will find anywhere. They have excellent safety records and modern equipment. Aloha has just bought a fleet of Fairchild prop-jets.

In addition to air freight, which is widely used, shipping between the islands is conducted by barge. A fleet of open, covered, and refrigerated barges operates between island ports on a regular schedule.

A typical rate for 2,000 pounds or 40 cubic feet between Hilo and Honolulu would be \$6.50 by barge. Air freight between the same points for cargos over 1,000 pounds runs about \$3.25 per pound.

Except for some old sugar plantation lines, which are no longer in operation, you will not see any railroads on the islands. Distribution is entirely by truck. There are a variety of trucking firms offering competitive rates.

Several business leaders interviewed by I.D.'s editor expressed the view that one of the big needs in the islands is



Shipping of pineapple and sugar still constitutes one of the cornerstones of the Hawaiian economy. Hawaii, long known as the "crossroads of the Pacific," is of course a port of call for ocean vessels sailing to all major ports in the U. S. and the Orient.

for rapid low-cost surface transport between the islands. They believe specially-designed hydrofoil vessels plying between key cities and offering low rates for automobile ferrying would bring about a revolution in inter-island commerce. Undoubtedly, such a service will receive closer attention as urban growth expands on Oahu and creates pressure for expansion on the other less-developed island areas.

### Government and Legislation

Every school child knows that Hawaii has now become our 50th state. While this has given Hawaiians a tremendous psychological lift and has focused international attention on the islands, it has really not had much influence on the manner in which Hawaiians live and do business.

The answer is simple—the territory had been making plans for statehood for so long that the territorial government was very similar to a typical state government for a good many years. In fact, Hawaii's late entry into the list of states has been somewhat of an advantage since it has been possible for Hawaii to model its state constitution and legislative framework after the best examples to be found among the other states.

That Hawaiians were ready to govern themselves was demonstrated by the fact that 88 per cent of registered voters turned out to cast their ballots in the general election last year. In Maui County 90.6 per cent voted! In the statehood election 93 per cent voted.

This is a better turnout for active voters than was recorded in any of the then 48 states. Clearly Hawaii already has a strong two-party system and an alert electorate.

The island group, too, has a head start on the solution of one of the most vexing problems on the mainland—metropolitan government. This is due to the simple fact that in Hawaii there are no municipalities—only counties. This means that there are only two levels of local taxation—state and county.

Government administrators in some of the urban areas on the mainland where there are literally dozens of taxing districts would indeed consider this a paradise. There are no municipal taxes and no direct school taxes, since the school system is financed from general revenue funds.

This does not mean, of course, that Hawaiians do not



have to pay their own way. The state tax structure is calculated to bring in the revenue and there are complaints here regarding the tax level, just as there are on the mainland.

Revenues come from three major sources, the gross income tax, real property tax, and the liquid fuel tax. Specifically taxes are levied under the following headings: General Excise, Consumption, Compensating, Real Property, Liquid Fuel, New Income—Corporations, Public Utilities, Unemployment Compensation, Liquor, New Income—Personal, Tobacco, Insurance, Inheritance and Estate, and Franchise Tax on banks, building and loan associations, and other financial corporations.

The corporate net income rate is  $2\frac{3}{4}$  percent on capital gains; 5 percent on all other income not over \$25,000, and  $5\frac{1}{2}$  percent on all over \$25,000. Details can be provided by EPCA.

### Utilities—An Unusual Pattern

Because the 50th state is an island group, the electric utility system is unlike that to be found on the mainland. There are independent systems on each of the major islands and they are not interconnected.

Largest company is Hawaiian Electric, which serves Oahu and has headquarters in Honolulu. This company is enjoying a growth pattern similar to that found in the fastest developing areas of other states.

According to president Ralph Johnson, Hawaiian Electric has enjoyed a growth rate of about 8 percent per year during the past decade and this year will see about a 10 percent expansion. "Significantly," he says, "our industrial load has shown the greatest increase during the past year."

Johnson, a conservative executive with 23 years experience, asserts "We will add as much to our system in the next 10 years as we did in the previous 50." A new 60,000 kw unit went into service in October and another such unit will be brought into service in '62. Moreover Hawaiian Electric is investing in a nuclear project with a group of mainland firms.

Regarding continuity of service you will be interested to know that there has been no "brown out" in Hawaii since the air raid days of World War II. Moreover the company's generating plants have a fuel storage reserve of more than 3 months and additional fuel oil supplies are available from Navy sources should an occasion arise which would require more fuel.

Rates on Oahu are reported to be comparable with rates in many parts of the mainland states. That is, they are neither the lowest nor the highest that you will encounter throughout the nation.

On the other islands you will find independent companies which are smaller but no less eager to serve you. On the big island of Hawaii service is provided by Hilo Electric Light Company, Limited. On Maui there is Maui Electric Company, Limited and on Kauai there are two firms: Kauai Electric Company, Limited and Waihi Electric Company.

Some of the systems on the smaller islands are very small with installed capacity of less than 25,000 kw. Hence an obvious question is "Will the various islands eventually be interconnected to provide a larger power pool?" Islanders reply that the matter has been studied but that the obvious technical problems place this development some time in the future. Very probably the pace of industrial development will be the determining factor in how soon such a development occurs.

The only areas in which gas is available, other than in bottled form, are in Hilo and Honolulu. Manufactured gas is distributed in these two areas by Honolulu Gas Company and the Hilo Gas Division.

Communications service on the island and between the islands is offered by Hawaiian Telephone Company.

A three-minute daytime person-to-person call from Honolulu to San Francisco is \$9.00, and to New York \$10.50. There's a time difference of 2 hours (except daylight saving time) between Hawaii and the West Coast, and a difference of 5 hours with the East Coast.



The business and industrial center of Honolulu is much like that of any major mainland city, with the addition of a spectacular scenic backdrop. To the right center is the Punch Bowl Cemetery where thousands of Pacific war dead lie. Pearl Harbor is to left of photo.



Residential construction is mushrooming in Hawaii as evidenced by this shot of a new area near Honolulu. New subdivisions generally reflect sound planning and incorporate delightful architectural expressions. The mild climate permits very light construction.

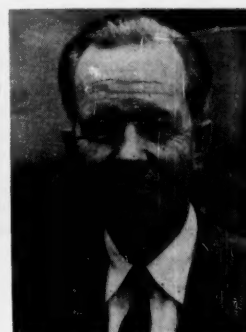




Prospective plant builders Jack Doolittle (left) P. L. Moody (center) look at a site in the Campbell Estates Park pointed out by manager Colin Lennox (right).



Important figures in the industrial development of Hawaii are the trustees of the Campbell Estate (left to right) Messrs. Davis, Collins and Randolph. It was their vision which launched a bold planning program several years ago and which has led to the establishment in a brand new industrial district of three basic industries—all new to Hawaii.



### Land in Hawaii: Much In Demand

One of the most important facts you should have about Hawaii is its relatively small land areas. With some 6,435 square miles it is about the size of Connecticut—and this area is split up into a number of separate units.

Moreover, much of the land is unusable for industrial or civic purposes because it lies on the steep slopes of volcanic mountains.

Large ownership is another characteristic of land holding in the islands. Some 46 percent of all the land belongs to 60 owners. And about 12 owners control 30 percent of the total.

For these reasons, land in Hawaii is sharply limited as to availability and, hence, is expensive. A small industrial site close to downtown Honolulu recently sold for \$5 per square foot. As recently as a year ago, industrial acreage on The Sand Island Access Road adjacent to the Honolulu waterfront was sold for \$2.50 per square foot.

Statehood publicity has created a further boom in land values throughout the island group. Promoters are running ads in Los Angeles papers offering sites at \$600 an acre on the big island of Hawaii high up on the slope of a mountain in an area studded with volcanic rock!

Because of these special situations, some alert developers here several years ago saw the opportunity to create new industrial parks to attract incoming industry. Foremost among these farsighted groups was the James Campbell Estate, one of the 5 major land owners in Hawaii.

During 1953, trustees of Campbell Estate decided to embark upon a bold program which ultimately would result in the creation of a new city on the property owned by the Estate in Southwest Oahu. Beginning with a tract of 36,000 acres, the main part of which was agricultural, they commissioned Harland Bartholomew and Associates to prepare an entire regional plan.

At the outset, they recognized "a unique opportunity for industrial development" according to trustee M. L. Randolph. "On our acreage we had a large tract which was flat, which had limestone running as much as 1000 feet deep, which was dry and sunny, and which had a prevailing wind directed so as to carry smoke or industrial wastes out to sea," he explained. "We decided to plan a complete city with the center of employment as its cornerstone," he said.

The bold venture involved a 1200 acre industrial park which would double the available industrial land on Oahu. Moreover, it was a pioneering venture in terms of zoning, with restrictions going well beyond previous zoning regulations in the county.

To the amazement of many observers, the Campbell Estates industrial district has in the space of 2 years attracted to Hawaii 3 basic industries that did not exist here before. These include the Standard Oil refinery and the aforementioned cement plant and steel mill. This is truly a remarkable achievement in industrial development and speaks well for the soundness of the planning which went into the project.

Escorted by executive officer Colin G. Lennox, I.D.'s editor visited the district to check recent progress. It took about an hour to drive from the Aloha Tower in downtown Honolulu out past CINCPAC, around Pearl Harbor, past the Barbers Point Naval Air Station to the tract.

There, on a broad coral plain, we found 10 industries already in place and intensive activity to prepare for others. We noted broad paved streets with all utilities, and obvious conformity with good area and setback requirements.

We saw the site of a future shopping center and large areas on the slopes where residential subdivisions will be built. Farther South, we watched as heavy equipment began work on the turning basin in what will eventually be a new harbor that could have a tremendous impact on development throughout this area.

As in most developments here, you cannot buy a site in the Campbell Estate district. All sites are provided on a lease basis. Typical annual rents per acre range from \$1275 for a 2 acre site to \$955 for a 10 acre site and \$846 for a 35 acre site.

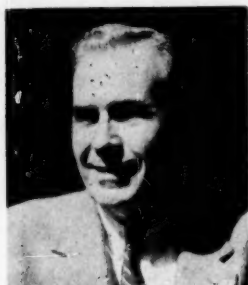
### Industrial Development Team

Hawaii is without doubt one of the best-researched of the 50 states. The development potential has been studied over a period of years by several outstanding organizations. The result is that today the industrialist interested in the islands can quickly lay his hands on a substantial fund of reliable information.

Most of this activity has been recent and stems from the efforts of a handful of farsighted individuals. Foremost

among these are George Mason, who is currently the director of EPCA (the state Economic Planning and Coordination Authority) and Rollin Bacher who is the director of industrial development for Hawaiian Electric Company. In the past decade they have spurred islanders to retain such groups as Stanford Research Institute for comprehensive overall studies, while encouraging local citizens to organize development units at local and state levels.

Those who are interested in the process of area development would find Hawaii to be an interesting case history.



Among the top spokesmen for business interests in Hawaii are Malcolm MacNaughton (left) the executive vice president of Castle and Cooke, Inc., and (right) Ralph Johnson, president of Hawaiian Electric.



Other astute observers of economic trends in the islands include (left) Robert S. Craig, management consultant and (right) Rudolph Peterson, president of the Bank of Hawaii.

Key man in organized development is George Mason who heads the state development agency. Photo was taken before he had a chance to change his office sign from "Territory" to "State."



## Opportunity Series

This study of development opportunities in Hawaii was conducted by the staff of INDUSTRIAL DEVELOPMENT under the sponsorship of a group of interested business firms and organizations. Reprints are available gratis from the Hawaiian Economic Planning and Coordination Authority, 1124 Miller Street, Honolulu, Hawaii.

Here, within the space of a few years, you can see the impact of the efforts of a small group of men who started with little more than a few ideas.

But no one here is resting on his laurels. Since the first big target, statehood, was in sight, other targets were set up. According to Mason, "Statehood publicity has brought a flood of inquiries—our next objectives are to attract people and industry." And they are not waiting for industry to come on its own initiative.

In recent weeks, Mason has shepherded a group of Hawaiian officials and business leaders into half a dozen mainland cities where one-day conferences were held to present facts about Hawaii to interested business leaders.

"The series of conferences in the six western cities went off beautifully," he continued, "and served to demonstrate my theory that you can be serious and not offer free liquor or free meals for the sake of getting an audience. The whole thing was a very serious approach without any gimmicks or give-aways. We had 900 people for the morning conferences and about 1,800 at the luncheons.

"Considering we had the World Series to compete with in Los Angeles and Houston, this is pretty good. Even though those who came had to pay \$7.50 in Los Angeles, we had 240 in the morning and 300 at lunch."

"We are making amazing headway, too, in selling our own people on the value of industrial development," he says.

Mason lists some 25 industrial development groups now active in the islands and he mentions new traffic and planning commissions that are getting organized. Yet he stresses that the form of Hawaii's development need not necessarily be precisely the same as that to be expected elsewhere.

Another long-time observer of Hawaiian development is Leonard Withington of the Honolulu Chamber of Commerce. He agrees that "Statehood has created a psychological boom and we will probably have a lot of enthusiastic failures." But he feels that all of the attention that the islands are getting now will bring out a lot of new opportunities as the Hawaiian market expands from "impossible" to "probable" for many enterprises.

## For More Data—

If you are interested in more information about Hawaii, consult the following references, which are available from the Economic Planning and Coordination Authority, 1124 Miller Street, Honolulu, Hawaii:

- Economic Indicators, State of Hawaii. 52 pages.
- Hawaii, America's Islands of Opportunity, 48 pages.
- Hawaii's Importance to America's Commercial Role in The Pacific. Fact Book, County of Maui. 37 pages.
- Fact Book, County of Kauai. 33 pages.
- Fact Book, County of Hawaii. 50 pages.
- Fact Book, City and County of Honolulu. 54 pages.
- Hawaii Newsletter (monthly) 4 pages.

## Other useful references include:

- Hawaii. 1959 mid-year report. Bank of Hawaii. Honolulu, Hawaii. 47 pages.
- Hawaii—Island Paradise with Economic Potential by Thomas K. Hitch. Bureau of Business Research, Indiana University, Bloomington, Indiana. 10 pages. \$1.00.
- Hawaii, 1959. Superintendent of Documents, Government Printing Office, Washington 25, D. C. 30 pages. 15 cents.
- A Study of Development Opportunities on Maui. Stanford Research Institute, Menlo Park, California. 66 pages.
- The Economic Development of Maui. Child and Waters, Inc., Honolulu, Hawaii. 110 pages.
- Proceedings of the Second and Third Annual Industrial Development Conferences. Chamber of Commerce of Honolulu, Dillingham Building, Honolulu, Hawaii. 86 and 166 pages.

# manufacturers record

THE NATIONAL MAGAZINE OF PLANT LOCATION NEWS

## EXPANSION BRIEFS

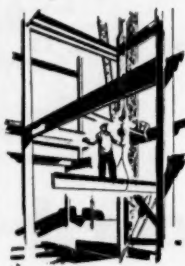
**PALOS VERDES, CALIF.** A scientific research center for astro-nertial and inertial guidance systems, navigation computers, infrared and optical systems and equipment will be built in the Palos Verdes Research Park for Nortronics, a division of Northrop Corporation. The building will contain 350,000 square feet and located on a 50-acre site. Construction is expected to be completed in 1960 at a cost of \$4 million.

**VERACRUZ, MEXICO.** Aluminum Company of America is planning to construct Mexico's first primary aluminum smelting plant here with production scheduled in two years. The new company is called Aluminio, S. A. Costing nearly \$20 million, the plant will have a capacity to produce 20,000 metric tons of aluminum per year.

**LAKE CHARLES, LA.** Hercules Powder Company disclosed it would build a multimillion dollar polypropylene plant here. Construction of the new facility will get underway immediately, with completion scheduled for early 1961. Polypropylene is used in film and fiber as well as injection-molded plastic items.

**PITTSBURGH, PA.** Westinghouse Electric Corporation plans to centralize its research and development on a 100-acre Churchill Borough site, 10 miles from downtown Pittsburgh. Ground will be broken early in 1960 for two new buildings to house 1,750 scientists, engineers and supporting personnel.

**FAYETTEVILLE, TENN.** A new factory to manufacture ladies' apparel is to be completed here by August 1960 for Serbin, Incorporated, at a cost of about \$750,000. Now under construction, the factory will contain 106,000 square feet of floor space and employ 1,000 persons.



## NEW PLANT SUMMARY

BY DONALD V. QUINN

The following is a summary of major industrial plants reported to INDUSTRIAL DEVELOPMENT during the month of October, 1959, by industries and industrial development organizations in the United States, Canada and territories.

Number of employees is indicated by the codes A (under 25); B (25-100); C (100-250); D (250-1,000); and E (over 1,000).

### ALABAMA

Birmingham—Read Steel Products, Inc.; Floyd Read, Pres. Bulk feed tanks, grain bins, dryers. Est. date of Oper., Dec. 1959. (B)

Birmingham—Simon and Mogilner; 1420, 14th St., S.W. Children's clothing. In Oper. 87,000 Sq. Ft. \$695,000.

Greenville—N. D. Foster Mfg. Co.; N. D. Foster, Offl. Men's slacks. Est. date of Oper., early 1960. \$183,000. (C)

Jamison—Southeastern Tool & Die Co.; Frank Mason, Sec. Treas. Aluminum storm windows & doors. Est. date of Oper., 1960. 10,000 Sq. Ft. (A)

Winfield—Continental Conveyor and Equipment Co.; Nelson J. Kemp, Chrm. Material handling equipment. Est. date of Oper., 1960. 70,000 Sq. Ft.

### ALASKA

No plants reported.

### ARIZONA

Tempe—Solid State Electronics Controls Inc.; (Subs. of Controls Co. of America) Dr. Friedrich W. Schwartz, Offl. Broadway. Controls systems for the aircraft, guided missile, computer, electronic, vending, air condition, automotive, refrigeration, heating and appliance industries. Plans announced. \$3 million. (C)

### ARKANSAS

Corning—Clayton Shoe Co.; Rudolf Rievère, Pres. Ladies casual clothing. In Oper. \$160,000. (B)

Forest City—Forest City Electric Co.; Electrical products. Under Constr. \$400,000. (D)

Little Rock—Midwest Casting Corp.; Jackson T. Stephens, Offl. Gray-iron castings. Plans announced. \$500,000. 30-acre site. (B)

Newport—American Lantern Corp.; Indoor & outdoor lighting fixtures. Est. date of Oper., Jan. 1960. \$350,000. (C)

North Little Rock—Southern Warehouse Co.; (Affiliate of Southern Compress Co. and Arkansas Corp.) Warehouse facility—Stores cotton, also standard and high density compression machine that makes more compact cotton bales. In Oper. 20-acre site. \$500,000.

Warren—Winters Sportswear Co.; L. H. Derby, Pres. Women's slacks and blouses. Plans announced. (C)

West Memphis—Interstate Petroleum Corp.; Liquefied petroleum gas. Est. date of Constr. June, 1960. 23-acre site. \$2.5 million. (A)

### CALIFORNIA

Brisbane—B. F. Goodrich Co.; O. K. Lynn, Zone Mgr. Rubber Products. Plans announced. 100,000 Sq. Ft. 5-acre site.

Merced—Continental Can Co.; R. A. Pink, Reg. Traffic Mgr. Hwy 140 and Kibby Rd. Cans. Under Constr. Oct., 1959. Est. date of Oper., May 1960. 19-acre site. 120,000 Sq. Ft. \$300,000.

Newark—Bemis Brothers Bag Co.; F. G. Bemis, Pres. Burlap, cotton, open mesh, water-proof laminated-textile, multi-wall and other paper bags. Est. date of Constr. Late 1959. Est. date of Oper., Summer, 1960. 155,000 Sq. Ft. 17-acre site.

Newark—Peterbilt Motors Co.; R. D. O'Brien, V. Pres. Truck building plant. Under Constr. \$2 million.

Newport Beach—Lockheed Aircraft Corp.; Electronics scientific and production facility. Est. date of Constr., Dec. 1959. 100,000 Sq. Ft. 200-acre site. \$2.5 million.

Pomana—Marquardt Aircraft Corp.; Dr. Wendell B. Sell, V. Pres. Aircraft engineering. Plans announced. 50,000 Sq. Ft. \$1.2 million.

San Diego—Frye and Smith, Ltd.; Linda Vista Rd. & Metro Street. Printing and lithography. Under Constr. Est. date of Oper., Dec. 1959. 20,000 Sq. Ft. \$250,000.

Santa Ana—W. J. Voit Rubber Corp.; Research and development of rubber products. In Oper. \$300,000. 37-acre site. 15,000 Sq. Ft.

Santa Fe Springs—Los Angeles Steel Casting Co.; R. H. McAllister, Pres. 9703 South Norwalk Blvd. Steel castings—High and low alloy, stainless steel, ductile iron. Est. date of Oper., 1962. 18½-acre site.

South San Francisco—J. A. Folger & Co.; W. W. Budge, V. Pres. South San Francisco Industrial Park, Unit 2-c. Instant coffee. Est. date of Constr., Dec. 1959. Est. date of Oper., Late 1960. \$Multi-million. 12-acre site.

South San Francisco—Gates Rubber Co.; South San Francisco Industrial Park, Unit 2-c. Rubber Products. Est. date of Oper., Late 1960. 2½-acre site.

South San Francisco—Hockwald Company; Lionel Hockwald, Gen. Mgr. Crocker Industrial Park. Processing and distributing of janitorial and sanitation supplies. Under Constr. 65,000 Sq. Ft. 3½-acre site.

Van Nuys—Weston Hydraulics, Ltd.; (Subs. of Borg-Warner Corp.) Fred O. Hosterman, Pres. and Gen. Mgr. Aircraft and missile components. In Oper. 10,000 Sq. Ft. 33-acre site.

Windsor—Empire Laminators Inc.; A. J. Hurst, Pres. Hardwood plywood. Est. date of Oper., Jan. 1960. (B)

### COLORADO

Berthoud—Mineral Concentrates and Chemical Company; Raymond S. Myre, Ex. V. Pres. Beryllium oxide. In Oper. (B)

Cheraw—Consumers Cooperative Assn.; Feed plant. Open formula feeds for cattle, hogs, chickens and turkeys. Plans announced. \$500,000. (A)

Loveland—Mineral Concentrates and Chemical Company; Raymond S. Myre, Ex. V. Pres. Beryllium oxide. In Oper. (B)

### CONNECTICUT

Middletown—Feldspar Corp.; Blaine C. Miller, Mgr. Surface mine feldspar and mica.

## NEW PLANTS

Under Constr. 500-acre site. \$111,000. (B)

Middletown—Puritron Corp.; Martin Frant, Gen. Mgr. East Main Street. Electronic air purifiers. In Oper. (B)

Middletown—Regal Footwear Company; Dominick and Joseph Calderazzo, Owners. Casual footwear—ballerina style shoe for girls and women. In Oper. 10,000 Sq. Ft. (B)

New Haven—Eversharp, Inc.; (Subs. of Schick Safety Razor Co.) Razors and razor blades.

### DELAWARE

No plants reported.

### DISTRICT OF COLUMBIA

No plants reported.

### FLORIDA

No plants reported.

### GEORGIA

Atlanta—Harbor Chair & Mfg. Co.; Furniture assembly. In Oper. 10,000 Sq. Ft. (A)

East Point—Charles Denney, Inc.; Bakery, confectionery and dairy supplies, warehouse. Under Constr. 10,000 Sq. Ft. (C)

Zebulon—Sherri Lynn, Inc.; Women's Sportswear. In Oper. (C)

### HAWAII

No plants reported.

### IDAHO

No plants reported.

### ILLINOIS

Chicago Heights—ALCO Products, Inc.; E. N. Boswell, Gen. Mgr. Produce coldwound springs from carbon and alloy spring steels. Under Constr. 18,000 Sq. Ft. Est. date of Oper., Spring, 1960. \$500,000. (B)

Elk Grove—Groen Manufacturing Co.; 1900 Pratt Blvd. Steam jacketed kettles, tanks, and milk coolers. In Oper. 80,000 Sq. Ft.

Morton Grove—Crane Packing Co.; K. V. Rohlen, Pres. Processing of plastic material used in rocket and missile, aviation, electronic and chemical industries. Included in this is the processing of basic shapes (sheet, rod, tubing and tape) and the manufacture of both standard and custom proprietary items. In Oper. 20,400 Sq. Ft. 22-acre site.

### INDIANA

Butler—Grand Edmund Corporation; Thomas Lorentzen, Plant Mgr. U.S. 6. Automotive parts. In Oper. (B)

### IOWA

Clinton—Inland Homes Corporation; Eugene E. Kurtz, Pres. 21st Street. Prefabricated homes. Est. date of Oper., May, 1960. 55,000 Sq. Ft. 15-acre site. \$300,000. (D)

Davenport—Mississippi Valley Milk Producers Assn.; Julius E. Mapes, Mgr. Dairy products. Est. date of Oper., June 1960. \$750,000. (B)

Des Moines—Cupples-Hesse Co.; (Div. of St. Regis Paper Co.) 1655 E. Madison St. Envelopes and shipping and merchandise tags. Under Constr. 25,000 Sq. Ft.

Mason City—Oakville Company; Safety pins, common pins, blanket and laundry pins, paper clips, drawer hooks, etc. Est. date of Oper., Beginning, 1960. 46,000 Sq. Ft. (A)

### KANSAS

Bonner Springs—Nat-Nast Company; Nat Nast, Owner. Third & Oak. Shirts. Est. date of Oper., Nov. 1959. (B)

Hoyt—Roberts Rodeo Equip. Mfg. Co.;



Gerald Roberts, Owner. Main Street. Naughahyde Chaps. In Oper. (B)

McPherson—Kit Mfg. Co.; Dan Pocapalia, Pres. Mobile homes. Est. date of Oper., Feb. 1960. (C)

Minneapolis—Tri-State Plastic Co.; L. A. Medearis, Owner. Oil field pond liners, tents, play wigwams and other plastic items, beautician trays. In Oper. (B)

Topeka—Precision Engineering Co.; Ernest V. Berry, Owner. Reconditioning of locomotive diesel crankshafts and diesel engine parts. In Oper. (B)

#### KENTUCKY

No plants reported.

#### LOUISIANA

No plants reported.

#### MAINE

Bridgeton — Ironrite Corp.; Printed circuitry & parabolic reflectors & electrical components. In Oper. \$130,000. (C)

Houlton—Morningstar-Paisley Co.; Potato starch & conversion. Under Constr. Est. date of Oper., early 1960. \$900,000. (B)

Kezar Falls—Aetna Electric Co.; Electrical products. In Oper. \$65,000. (B)

#### MARYLAND

Baltimore — Firestone Tire and Rubber Company; E. D. Harris, Dist. Mgr. 2915 Whittington Ave. Rubber processing. Est. date of Constr. Jan. 1960. Est. date of Oper., Spring, 1960. 17,000 Sq. Ft.

Baltimore—Rymland Industries Ltd.; (and its Subs., Comfort Spring Corp.) Murray J. Rymland, Pres. 2700 Hollins Ferry Rd. Springs. Under Constr. Est. date of Oper., Spring, 1960. \$1 million. (C)

#### MASSACHUSETTS

Boston—Westinghouse Supply Corp.; Electrical products warehouse. Est. date of Oper., 1960. \$1 million.

Burlington — Microwave Associates; Mr. Vess Chigas, V. Pres. Semi-conductors. Est. date of Oper., March 1960. \$750,000. (D)

Chicopee—Security Windows, Inc.; Friedenberg, V. Pres. Windows. Est. date of Oper., Feb. 1960. 20,000 Sq. Ft. (B)

East Bridgewater — Foxboro Company; Electronic products. Est. date of Oper., March 1960. \$500,000. (B)

Haverhill—Continental Can Co.; Charles B. Stauffacher, V. Pres. Boxes. Est. date of Oper., March 1960. 20,000 Sq. Ft. (D)

Holyoke — Continental Baking Company; Richard Ainsworth, Mgr. Bakery goods. Est. date of Oper., 1960. (C)

Holyoke — Nonotuck Mfg. Co.; Copper wires. Est. date of Oper., March 1960. \$500,000. (C)

Leominster—Burton Tool & Die Company; Tools and dies. Est. date of Oper., 1960. (B)

Leominster — Commonwealth Plastics Corp.; Mr. Burton Levine, V. Pres. Plastics. Est. date of Oper., Jan. 1960. \$130,000. (B)

Needham—Georgia Pacific Corp.; Robert Paradise, New England Mgr. Plywood. Est. date of Oper., 1960. 30,000 Sq. Ft. (B)

New Bedford — Trimount Plastics Company; Plastic products. Est. date of Oper., 1960. 30,000 Sq. Ft. (B)

North Adams—Sprague Electric Co.; Research Laboratory. Est. date of Oper., 1960. \$1.6 million.

Northampton—Tri-City Container Corp.; Hardwood into pulp. Est. date of Oper., 1960. 40,000 Sq. Ft. (B)

North Andover — Borden Chemical Com-

pany; A. R. Marusi, Pres. Vinyl Extrusion. Est. date of Oper., Jan. 1960. (B)

Pittsfield—A. Leo Nash Steel Corp.; Kenneth M. Nash, Pres. Steel fabrication. Est. date of Oper., 1960. 50,000 Sq. Ft. (B)

Plainville—Howard Fiberglass Boat Co., Inc.; Fiberglass boats. Est. date of Oper., Dec. 1959. 10,000 Sq. Ft. (B)

Saugus—Eastern Tool and Stamping Company, Inc.; Metal stamping, dies, etc. Est. date of Oper., Dec. 1959. 40,000 Sq. Ft. (C)

Stoughton — Form-a-die Casting Corp.; Emil Ouimet, Pres. Aluminum and zinc die castings. Est. date of Oper., 1960. (B)

Westfield—Berkshire Tool Co.; Mr. Robert Allen, Asst. Treas. Tools. Plans announced. 15,000 Sq. Ft. (B)

Worcester — Jamesbury Corporation; Valves. Est. date of Oper., Jan. 1960. \$100,000. (B)

#### MICHIGAN

Ann Arbor—Parke, Davis & Co., H. J. Loynd, Pres. Research Laboratories. Under Constr. \$13 million.

Ecorse—Linde Co.; M. Hubbell, in charge. Welding apparatus & supplies. Under Constr. \$300,000.

Flint—General Motors Corp. (AC Spark Plug Div.) J. A. Anderson, Gen. Mgr. Automobile accessories. Plans announced. \$146,000. (E)

Grand Haven—Grand Haven Utility Co.; Utility project. Under Constr. \$5 million.

Grand Rapids — American Motors Co.; (Kelvinator Div.) G. H. Beld, Plant Mgr. Warehouse. Plans announced. \$2 million.

Grand Rapids—Van Keulen & Winchester Lumber Co.; A. R. J. & A. Van Keulen, Partners. Lumber & Millwork. In Oper. \$400,000. (B)

## Spotlight On Electric Utilities

For many years the nation's electric utilities have been in the forefront of area development programs, promoting industrial growth, and assisting in plant location projects. Many firms have established highly professional organizations which offer a wide variety of services.

The editors of INDUSTRIAL DEVELOPMENT feel that there is an urgent need to do a complete "wrap-up" on these programs, to acquaint all readers with the scope of such activities. Hence, an entire editorial section (at least 16 pages, probably many more) of the February, 1960, number will be devoted to a presentation of the role of the electric utilities.

**Advertising:** Electric utility firms will be invited to insert display advertising in the special report section at regular rates. It is anticipated that a large and representative number of firms will be included. Note: advertisers are urged to use copy which stresses the professional nature of services offered to site-seeking firms. Space reservations should be made promptly. Engravings and copy can be received until January 15, 1960.

#### Editorial Offices

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North Atlanta 19, Georgia  
Phone: CE 3-7153

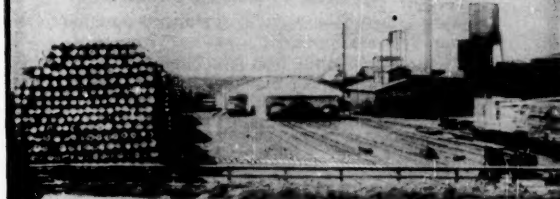
## CREOSOTED

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Decay and Termite Proof

Docks for Ocean Vessels



**American Creosote Works, Inc.**

New Orleans, La.

Plants at Pensacola, Fla.; Slidell, La.; Winnfield, La.;  
Louisville, Miss.; Jackson, Tenn.

## NEW PLANTS

Greenville—Ranney Refrigerator Co.; C. W. Martin, Pres. Refrigerators & freezers. Under Constr. \$600,000. (D)

Highland Park—Ford Motor Co.; Henry Ford II, Pres. Tractors. Under Constr. \$1.5 million.

Kalamazoo—Gibson, Inc.; T. M. McCarty, Pres. Musical instruments. Plans announced. \$250,000. (C)

Marshall—Eaton Manufacturing Co.; W. R. Eames, Gen. Mgr. Pumps. Plans announced. \$450,000.

Midland—Dow-Corning Corp.; W. R. Collings, Pres. Silicones. Plans announced. \$1.5 million. (E)

Pinconning—Northern Tube Co.; G. S. Demski, Pres. Automobile parts. Under Constr. \$100,000. (B)

South Haven—Lovejoy Flexible Coupling Corp.; M. W. Dangel, Pres. Flexible couplings, variable speed pulleys and universal joints. Under Constr. Est. date of Oper., Mar. 1960. 5-acre site. (B)

Troy—Ford Motor Co.; Henry Ford, II, Pres. Automobile parts. Plans announced. 100,000 Sq. Ft. (C)

Warren—Holley Carburetor Co.; H. T. O'Conner, V. Pres. Aircraft accessories, automobile parts. Under Constr. \$300,000. (E)

### MINNESOTA

Bloomington—Vaughn Inc.; 5050 W. 78th St. Floats and parade materials. Under Constr. 24,000 Sq. Ft. \$250,000.

Mendota—Brockway Glass Co.; Hwy. 13. Flint (clear) glass containers for use by large industries such as the cosmetics industry. Est. date of Constr. Spring, 1960. \$4 million. 100,000 Sq. Ft. (D)

Pine Bend—Great Northern Oil Co.; W. J.

Carthaus, Pres. Sulphuric acid alkylation plant. Under Constr. Est. date of Oper., Mid-1960. 2-acre site.

St. Paul—Durox of Minnesota, Inc.; Kenneth F. Merrill, Ex. V. Pres. Light weight stone, used for construction purposes. Using Durox, a cellular gas concrete process, it can be sawed, bored or hewn with ordinary tools, and combines the properties of cement, wood and other construction materials. Under Constr. \$1.5 million.

St. Paul—Evans Products Company; Warehouse. Plans announced. 40,000 Sq. Ft. \$300,000.

St. Paul—Pearson Candy Co.; 2140 W. Seventh. Candy. In Oper. \$1 million.

Shakopee—Owens-Illinois Glass Co.; Valley Industrial Park. Corrugated boxes. Under Constr. 153,000 Sq. Ft. \$1.5 million.

### MISSISSIPPI

Brandon—Brandon Shirt Company; Textile products. Est. date of Oper., Late 1959. (C)

Brandon—Wasco Manufacturing Co.; Shirts. Est. date of Oper., Jan. 1960. (D)

Coffeeville—Coffeeville Industries, Inc.; Garments. Est. date of Oper., 1960. \$300,000. (D)

Corinth—Myrner Mills; W. V. Young, Offl. Men & boy's shirts. In Oper. (C)

Florence—Contract Battery Company; Electrical Products. Est. date of Oper., early, 1960. (B)

Hernando—McCallum & Robinson; Mops. Est. date of Oper., late 1959. (B)

Meridian—Kroehler Mfg. Co.; Wood processing plant. Product to be used in place of plywood or wood in drawer bottoms, mirror and chest backs, and top, side and front

panels of bedroom and dining room furniture. Plans announced. \$5.5 million.

### MISSOURI

No plants reported.

### MONTANA

No plants reported.

### NEBRASKA

No plants reported.

### NEVADA

No plants reported.

### NEW HAMPSHIRE

No plants reported.

### NEW JERSEY

Bensalem—Vector Manufacturing Co.; State and Trevoise Rds. Missile and rocket data receiving devices, research and manufacturing center. Plans announced. 20,000 Sq. Ft. 25-acre site. (D)

Hopewell—Western Electric Company; Carter Road. Engineering Research Center.—Telephone Equipment. Plans announced. \$1.5 million.

Lawrence—Heinemann Electric Co., Inc.; B. A. Berlin, Pres. Circuit breakers and ever-load and time-delay relays for various types of equipment protection control. Under Constr. Est. date of Oper., Summer, 1960. 100,000 Sq. Ft.

Pennsauken—Concord Steel Co.; Steel products. Plans announced. 20,000 Sq. Ft. 3½-acre site. \$200,000.

Pennsauken—Grabler Manufacturing Company; Pipe fittings. Plans announced. 60,000 Sq. Ft.-tract. 25,000 Sq. Ft.-Bldg.

Pitman—Columbia Records; (Div. of (CBS) Columbia Broadcasting System.) Goddard Lieveson, Pres. Phonograph records. Est. date of Oper., June, 1960. 76-acre site. 160,000 Sq. Ft. (D)

Wayne—American Cyanamid Co.; Makers of Agricultural specialties—Animal feed products, farm products, food chemicals, veterinary products. Bulk antibiotics, sulfonamides and vitamins. Metal chemical paper chemicals, process chemicals and refinery chemicals. Biologicals, diagnostic agents, pharmaceuticals, organic chemicals. Phosphates & Nitrogen plastics & Resins. Also Surgical products. Est. date of Constr., Fall, 1959. \$Multi-million.

### NEW MEXICO

Albuquerque—Ideal Cement Co.; R. K. Biggs, Plant Mgr. Cement. Est. date of Oper., Dec. 1959. \$7 million.

Albuquerque—B. H. Stauffer, Inc.; Reducing couch equipment. Est. date of Constr. Jan. 1960. 126-acre site. (C)

### NEW YORK

No plants reported.

### NORTH CAROLINA

Barnardsville—Clinton Corporation; Dean E. Sorensen, Gen. Mgr. Women's garments. Under Constr. Est. date of Oper., early 1960. 9-acre site. 50,000 Sq. Ft. (D)

Charlotte—Duff-Norton Co.; Walter I. Floyd, Pres. Ratchet, hydraulic, screw, air motor and worm gear lifting jacks and commercial forgings for all industry. Hand, electric and air hoists. Under Constr. Est. date of Oper., mid-1960. 168,000 Sq. Ft. 26-acre site.

Clinton—Lori Lee, Inc.; Children's sportswear. Under Constr. 80,000 Sq. Ft. Est. date of Oper., Jan. 1960.

Durham—Triangle Brick Co.; James F. Lalanne, Pres. Bricks. Under Constr. \$750,000. 91,000 Sq. Ft. (C)

# EXPANSION


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A food manufacturing firm has completed its second major expansion in Brook Hollow, more than doubling the size of its plant.

A chemical firm tripled the size of original Brook Hollow facilities in two expansions. Three firms recently doubled the size of their Brook Hollow facilities.

Expansion comes naturally in Brook Hollow—it was **PLANNED** that way. Check Brook Hollow for reasons why 170 national and regional firms have built 4,000,000 square feet of modern plant facilities there.

 **Windsor properties, inc.**  
2828 Southland Center • Dallas, Texas

Farmville—Carolina Wire and Cable Company, Inc.; Robert H. Kemper, Pres. West Horne Ave. Fabricators of electrolytic copper, using fine copper cables, and wire-conductors of electricity. In Oper. (B)

Fayetteville—C. M. Hall Lamp Co.; Headlamps and other auto parts. Est. date of Constr., Dec. 1959. Est. date of Oper., June, 1960. 110,000 Sq. Ft. \$250,000. (D)

High Point—American of High Point, Inc.; R. H. Richardson, Pres. Upholstered Furniture. In Oper. (B)

High Point—Hsirlom Furniture Corp.; Earl Clark, Pres. W. Green St. Upholstered Furniture. Est. date of Oper., Dec. 1959. \$75,000. (B)

High Point—Samples, Inc.; Harry E. Tuttle, Pres. Potts & South Sts. Fabric sample books. In Oper. \$56,000. (B)

Rocky Mount—Rocky Mount Undergarment Co., Inc.; Women's undergarments. In Oper. 33,000 Sq. Ft. (C)

Smithfield—Fieldcrest Mills, Inc.; H. W. Whitcomb, Pres. Interstate Hwy 95. Electric blankets. Est. date of Oper., Spring, 1960. 24-acre site. \$Multi-million. 200,000 Sq. Ft. (D)

Statesville—Jiffy Join, Inc.; Taylorsville and Meacham Rds. Fasteners, time saving devices used on upholstery of automobiles and in the furniture trade. Also silent curtain and cubicle track, made of both metal and wood, used extensively in industrial plants, homes, hospitals and airplanes. Plans announced. 26,000 Sq. Ft. (C)

Tarboro—Glenoit Mills, Inc.; (Subs. of Botany Mills, Inc.) Clarence Hafford, Pres. US 64. Knitted pile fabric, used in making coats, sportswear, rugs, and industrial cloth. Plans announced. 102,000 Sq. Ft. \$700,000. (C)

Wilmington—Tenney Engineering, Inc.; Monroe Seligman, Pres. Sunneydale Ave. Environmental test chambers and heat transfer components. Producers of heating and refrigerating components for commercial and industrial applications and for home and auto air conditioners. Under Constr. 75,000 Sq. Ft. 11-acre site. \$450,000. (D)

#### NORTH DAKOTA

No plants reported.

#### OHIO

Brecksville—Ohio Oil Co.; Petroleum products distribution center. Plans announced. \$600,000.

Cincinnati—Halleander Mfg. Co.; P. R. Halleander, Offl. Pipe fittings used on railing for scaffolding and railing for stairs. Plans announced. \$250,000.

Columbus—Stallman Gear Mfg. Co.; Wayne A. Stallman, Jr., Pres. Machine tools. Plans announced. 16,000 Sq. Ft.

Delaware—U. S. Dept. of Agriculture; Robert U. Swingle, In Charge. Laboratory to include facilities for tree and plant research. Est. date of Oper., Jan. 1960. \$350,000.

Middletown—Armco Steel Corp.; R. L. Gray, Pres. Research center for nuclear studies, of steel. Est. date of Oper., early 1961. \$3.5 million.

Struthers—Linde Air Products Co.; Oxygen. Plans announced. \$1 million.

#### OKLAHOMA

Poteau—Oklahoma Glass Mfg. Co.; Glass Bottles. Est. date of Oper., March, 1960. (B)

#### OREGON

Beaverton—Mears Electric Controls; Circuit breakers and thermostats. Under Constr. 20,500 Sq. Ft. 2.1-acre site.

Grants Pass—"Oregon Beauty" Christmas Tree Co.; Dietz Newland, Pres., Gen. Mgr. 214 N.W. Booth Street. Artificial Christmas Trees. In Oper. (B)

Grants Pass—Roque River Plywood; E. H. Jacobsen, Pres. 1090 S.E. M Street. Plywood glue up plant. Est. date of Oper., April 1960. \$500,000. (B)

Pendleton—E.M.C.O., Inc.; Herb Clark, Pres. & Gen. Mgr. Caterpillar tractors & plows. In Oper. \$100,000. (B)

Portland—Western Farmers Association; Automated feed mill. Poultry and livestock feeds and expanded purchasing and marketing services for farmers. Plans announced. 10-acre site. \$1.5-2 million.

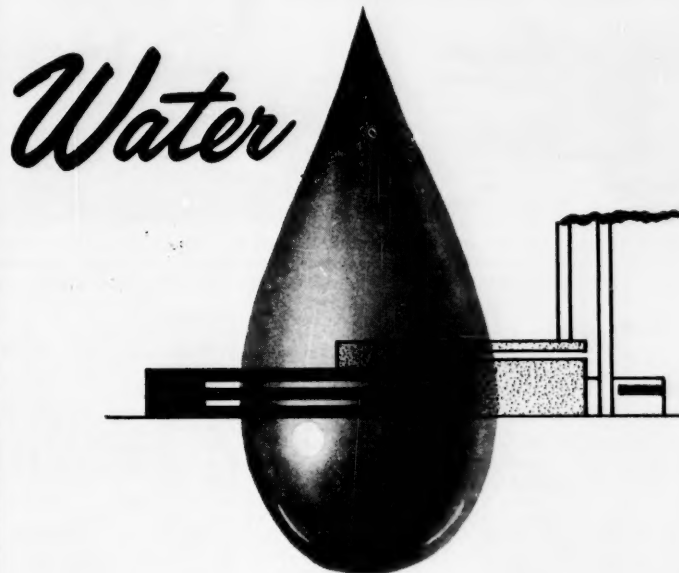
#### PENNSYLVANIA

Athens—Athens Foundry Corp.; D. W. Hallstein, Pres. Gray Iron Castings. Plans announced. \$600,000. (B)

Conshohocken—I. E. Robinson Co.; Elizabeth Ave. Electric equipment for industry including oscilloscopes, wave guides and telemetering devices. The devices are high powered electronic units for laboratory and industrial use. Under constr. Est. date of Oper., May 1960. 4½-acre site. 11,000 Sq. Ft. \$250,000.

Philadelphia—Cutler Dairy Products Inc.; Dairy Products. Plans announced. 17,000 Sq. Ft. (A)

Philadelphia—General Dynamics; Hydro-



Plenty of it . . . Almost any place in the state.

It makes Alabama a preferred location for industries requiring large quantities of water for processing.

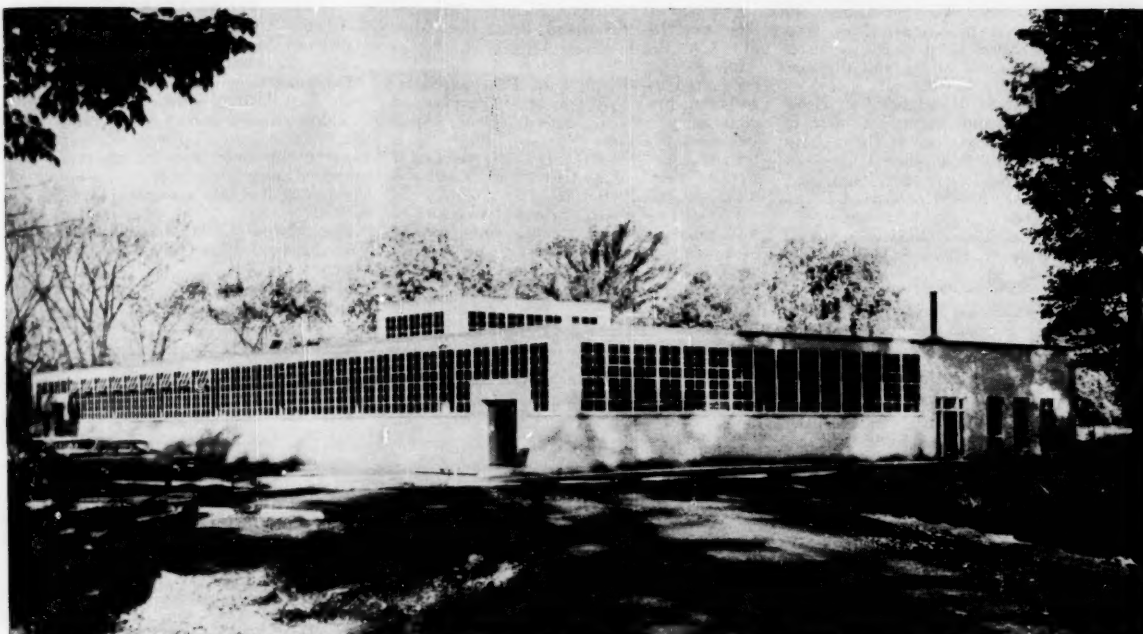
For full information on locations with the human and physical resources required for your new plant write

INDUSTRIAL DEVELOPMENT DIVISION

*Alabama Power Company*

Helping Develop Alabama  
Birmingham 2, Ala.





Crane Packing Company has just completed this 20,400 square foot plant in Morton Grove, Illinois. It is the first plant devoted exclusively to processing of "Teflon," a plastic material used in rocket and missile, aviation, electronic and chemical industries. Included in this is the processing of basic "Teflon" shapes (sheet, rod, tubing and tape) and the manufacture of both standard and custom proprietary items.

gen, Oxygen, Nitrogen, etc. Plans announced. \$700,000.

Philadelphia—John J. Nesbitt Inc.; Albert J. Nesbitt, Pres. Heating, ventilating, & air conditioning. Plans announced. 150,000 Sq. Ft. \$Multi-million. (D)

Philadelphia—Pearce Fireproof Co. Inc.; Steel plaster bases & accessories. Plans announced. 20,600 Sq. Ft. \$140,000.

Philadelphia—F. J. Stokes Corp.; Pharmaceutical equipment, industrial compacting, plastics molding. Plans announced. 50,000 Sq. Ft. \$1 million. (C)

Pittsburgh—Mobay Chemical Co.; Chemicals. Plans announced. 26,000 Sq. Ft. \$500,000.

Reno—American Greeting Corp.; Greeting cards & Allied products. Plans announced. (C)

Venango—Venango Manufacturing Co.; Greeting cards and gift wraps hand packaging. Plans announced. 30,000 Sq. Ft. (C)

Waterford—Elgin Laboratories Inc.; Electronic assemblies of various kinds. Plans announced. 20,000 Sq. Ft. \$150,000. (C)

Wilkes-Barre—Foldes Industries, Inc.; Plastic footwear. Plans announced. 20,000 Sq. Ft. (B)

Wilkes-Barre—Radio Corp. of America (RCA); Route 309. Transistors & silicon rectifiers for industrial, computer and military applications. Est. date of Oper., mid-1960. 38-acre site. 120,000 Sq. Ft.

Woolrich—Woolrich Woolen Mills; Robert F. Rich, Pres. Woolen fabric garments. Plans announced. 23,800 Sq. Ft. \$200,000. (B)

#### PUERTO RICO

Hato Rey—International Elastic Corp.; Elastic braids. Plans announced. \$600,000. (B)

Mayaguez—Coral Clothing Corp.; Work clothes and accessories. Plans announced. \$20,000. (C)

Mayaguez—S.P.R. Corporation; Men's slacks & shorts. Plans announced. \$60,000. (D)

Rio Piedras—Caribe Casting, Inc.; Bakelite parts, aluminum dies castings, molded rubber parts. Plans announced. \$162,000. (B)

Santa Isabel—Wilson Shoe Company; Welt and work shoes and related products. Plans announced. \$35,000. (B)

Santurce—Beth Paige Mfg. Co.; Women's underwear. Plans announced. \$30,000. (C)

Santurce—Rite Engineering & Mfg. Co.; Steam boilers. Plans announced. \$28,775. (B)

Santurce—Tropical Accessories Corp.; Brassieres and accessories. Plans announced. \$18,000. (B)

#### RHODE ISLAND

No Plants Reported.

#### SOUTH CAROLINA

Aiken—Owens-Corning Fiberglas Corp.; Richard MacPherson, Mgr. Fibrous glass yarns. Under Constr. Est. date of Oper., June, 1960. 350-acre site. \$Multi-million. (E)

Clemson—Jacobs Manufacturing Company; U. S. Hwy. #23. Drill chucks and lathe collet chucks. Under Constr. Est. date of Oper., Dec. 1959. 30,000 Sq. Ft. 25-acre site. (C)

#### SOUTH DAKOTA

No Plants Reported.

#### TENNESSEE

Jonesboro—Custom Machine Works; P. R. Stewart, Jr., Owner & Oper. Machine boring, milling, shaping, drilling, and welding. In Oper. 7,500 Sq. Ft. (B)

Madison—Moby Dick Sportswear; James Atchley, Plant Mgr. Jackets. In Oper. (C)

Memphis—Fortifiber Co.; Clifford R. Mack, Plant Mgr. Paper bag and packing plant. Heavy kraft paper car and truckliners, and

chemically treated coated papers. Est. date of Oper., Jan. 1960. \$300,000. 6½-acre site. 36,000 Sq. Ft.

Memphis—Grace Chemical Company; W. J. Haude, Pres. Ammonia. Est. date of Oper., Jan. 1960. \$6 million. (B)

Morristown—Morristown Molding Co.; Rubber mechanical parts for the electrical and automotive industries. Est. date of Oper., Jan. 1960. \$250,000. 30,000 Sq. Ft. (C)

Rockwood—Rockford Chain Co.; Mike Malesko, Pres. Heavy industrial link chains. Power transmission chains and special materials handling equipment. Plans announced. \$100,000. 20,000 Sq. Ft. 10-acre site. (B)

#### TEXAS

Carrollton—Otis Engineering Corp.; Belt Line Road and Reddick Road. Production and safety equipment for oil and gas wells. Under Constr. 68-acre site. 55,000 Sq. Ft. (D)

El Paso—Morton Foods, Inc.; Fred Wilson Road. Potato Chips. Plans announced. 2.34-acre site. 26,144 Sq. Ft. \$250,000.

#### UTAH

Salt Lake City—Trane Company; D. C. Minard, Pres. Builds commercial air conditioners, heating units, fans and ventilating equipment, and heat transfer coils, partial fabrication and final assembly of refrigeration compressors for big building air conditioning. Est. date of Oper., 1960. 60,000 Sq. Ft. 86-acre site.

#### VERMONT

No Plants Reported.

#### VIRGINIA

Norfolk—Sunnyland Refining Company; James M. Kidd, Sr., Pres. Margarine. Plans announced. \$500,000. 5.5-acre site. 16,000 Sq. Ft. (B)

South Norfolk—Cargill Inc.; Soybean meal



DIRECTED BY

Richard Edmonds...1882-1930  
Frank Gould...1930-1943  
William Beury...1943-1955  
McKinley Conway...1956

# MANUFACTURERS RECORD

(IN REVIEW)



DECEMBER 1885

(AS ABSTRACTED MORE THAN 70 YEARS LATER)

BALTIMORE, MD.

## EXHAUST STEAM UTILIZED

The advance in mechanical science is so rapid that constant study is necessary to keep pace with inventions and discoveries, and almost daily we find some busy mind has been thinking out the problems of economical production of force. The latest novelty in this line is the American Exhaust Injector, a little instrument which takes the exhaust steam from an engine, utilizes the waste product by heating the water and forcing it into the boiler. Extraordinary as it may seem, this injector will take exhaust steam, and, heating the water to 190 degrees, force it into the boiler, against a registered pressure of 90 to 100 pounds. We saw one at work in the extensive establishment of the John T. Noye Manufacturing Company, which was forcing against 90 pounds on the boiler steam gauge. It will work at and below atmospheric pressure and feed against 90 pounds boiler pressure. This condition will render it valuable to steam users and will prove a solution to a large portion of the problem of economic force production, for at a cost of nothing but exhaust steam, generally a total waste, we find an actual production of heated water combined with the power to inject it into the boiler.

The American Injector Company, Detroit, Mich., are sole manufacturers of this valuable new invention, and will take pleasure in answering all inquiries.

## A BIG PULLEY

The Cummer Engine Company, of Cleveland, are making an enormous pulley for the Manchester (N. H.) Cotton Mills, the dimensions of which are 18 feet diameter, rim fact 4 feet, weight, when turned, 32,000 pounds. This pulley is designed to go with a Cummer Engine, 24-inch diameter by 48-inch stroke. The Cummer Engine Company have recently secured the services of Mr. Alfred Clarke, as superintendent of their works. Mr. Clarke was formerly superintendent of the Kitson Machinery Company, of Lowell, Mass., and has had an extensive experience in the manufacture of all kinds of machinery.

Mr. Ballentine, the former superintendent of the Commer Works, has resigned that position to enable him to give his whole attention to the refrigerator and ice manufacturing business of that company, that branch of their business having grown to such proportions as to require his entire time.

## NEW DESIGNS

J. E. Bolles & Co., of Detroit, Mich., have just completed some new and handsome designs in wrought iron fences and roof cresting.

This well known concern do a large Southern business and, like "Oliver Twist" would like more. Their large and finely illustrated catalogue is the most complete we have seen in this line of goods. In it the most artistic

designs for roof crestings and railings, iron finals for roof crestings, tower ornaments, weather vanes, stall partitions, hay racks, cast iron mangers and water tanks, together with every conceivable outfit for stables, hitching posts, wrought iron bedsteads, wire signs, wire window guards and grating for jails; wire bank and office railings, elevator wire work, wire and wrought iron fencing of every description, wire and iron chairs and lawn ornaments, etc., can be found.

J. E. Bolles & Co. are constantly adding new designs. They are close bidders on architectural work and contractors should send for their catalogue of builders' specialties. It will be sent to the readers of the MANUFACTURERS RECORD, post paid, upon application. Address, J. E. Bolles & Co., Detroit, Mich.

## TRADE NOTES

We believe the Derby Roll-top Desk is the best office desk in the world. It has every possible convenience, and ample room, without being cumbersome. It is as handsome as any desk made. The workmanship and finish are

first-class in every particular, and the price is lower than that of other roll-top desks possessing fewer advantages. The Derby desk is made—in walnut, cherry and mahogany—in several styles and sizes, by the Derby & Kilmer Desk Co., 55 Charlestown street, Boston, Mass. Send to them for illustrated catalogue with prices.

Messrs. E. Van Noorden & Co., Boston, Mass., are working on an order for ventilators for a large dye-works in Philadelphia. They have also furnished skylights and ventilators for the Clyde Bleaching and Print Works, S. H. Greene & Sons, proprietors, Riverpoint, R. I. Messrs. E. Van Noorden & Co. note an advance of five per cent, in the price of iron.

The Detroit Block Works, 52 to 58 Atwater street, Detroit, Mich., have just issued a new price-list of their justly celebrated blocks, which they will send to dealers upon application. This concern is one of the oldest and largest of its class in the United States, and are celebrated for the quality of their work.

# CRONK'S WROUGHT IRON

## Barn Door Hanger & Stay Roller.



In offering to the trade of 1886 our Celebrated Wrought Iron Hangers and Stay Rollers, special attention is called to our Iron Clad Track in connection with our Hangers. It is made complete, only requiring hammer and nails to attach it to the building. We make the broad claim that whoever uses our Hangers and Iron Clad Track has the best device known for sliding doors. These hangers never break; can not get off the track, and work so easy that they can be operated by a child. Every pair guaranteed to give satisfaction. For sale by hardware dealers generally.

CRONK HANGER CO., ELMIRA, NEW YORK.

## NEW PLANTS

& oil. In operation. \$1 million. (B)

### WASHINGTON

No Plants Reported.

### WEST VIRGINIA

Charleston — Food Machinery & Chemical Corp.; Chemicals. Est. date of Oper., 1960. \$3 million.

Martinsburg—Corning Glass Works; William C. Decker, Pres. Ceramics. Est. date of Oper., 1960. \$Multi-million. (D)

### WISCONSIN

Dresser—St. Croix Plastic Corp.; R. C. Gilbert, Pres. Plastics parts. In Oper. (B)

Sheboygan—Watry Industries, Inc.; N. Watry, Pres. Aluminum alloy castings. Est. date of Oper., March 1960. \$165,000. (B)

Walworth—Walworth Plywood Co.; Earl M. Spiro, Pres., Plywood. Est. date of Oper., Nov. 1959. (B)

### WYOMING

No Plants Reported.

### CANADA

(two months listing)

#### ALBERTA

Edmonton—Alberta Oxygen Y Acetylene Company, Ltd.; R. L. McDougall, Gen. Mgr. East Edmonton Industrial Dist. Produces oxygen, nitrogen and acetylene for the steel, fabricating, metalworking, oil, natural gas, chemical, welding, construction and other industries. Also produce medical oxygen for inhalation therapy in hospitals. In Oper. 14,000 Sq. Ft.

#### BRITISH COLUMBIA

Abbotsford — Celwood Industries Ltd.; Sashless windows and folding doors. Plans announced. \$350,000.

Annacis Island—Shannon Dairies Ltd.; Dairy Products. Milk, cream, butter, chocolate milk, cheese, and ice cream. Plans announced. \$750,000.

Burnaby—Bedford Fine Leathers Ltd.; Leather tools and fine leathers. Plans announced. 12,000 Sq. Ft.

Burnaby—Kelly Douglas Co. Ltd.; Tea, Coffee, Peanut Butter. Plans announced. \$2 million. 147,000 Sq. Ft.

Delta—Dow Chemical Co. Ltd.; Phenol. Plans announced. \$3 million.

Hudson Hope—Peace River Power Development Co.; Hydro electric power. Plans announced. \$375 million.

Namaimo—Stauffer Chemical Co.; Bulk storage plant for salt cake used in the pulp and paper industry. Under Constr. \$250,000.

Port Mann—B. C. Electric Co. Ltd.; Electric power. Thermal electric power plant using natural gas as fuel. Used strictly for peak load periods and emergencies. In Oper. \$11 million.

Richmond—Smith Lithograph Co. Ltd.; Printing and cartons. Est. date of Constr. Winter, 1959. Est. date of Oper., late 1960. \$500,000.

Saturna Island—B. C. Lightweight Aggregates Ltd.; Lightweight aggregates used in place of sand and gravel in concrete for special applications. Plans announced. \$750,000. (A)

### MANITOBA NEW BRUNSWICK NEWFOUNDLAND

No Plants Reported.

### NOVA SCOTIA

Port Hawkesbury—Nova Scotia Pulp Ltd.;

Bleached sulphite pulp. Est. date of Oper., early 1962.

### ONTARIO

Brampton—Ivers-Lee Company (Canada) Ltd.; Mr. James Wood, Plant Mgr. 31 Hansen Rd. Contract unit packaging services for the pharmaceutical, cosmetic, food and allied industries. In Oper. 14,500 Sq. Ft. 2-acre site. (C)

Coolsville — Imco Container (Canada) Ltd.; Mavis Road. Plastic squeeze bottles for cosmetics, toilet preparations and industrial applications. In Oper. 13,000 Sq. Ft. 5-acre site. (B)

Cornwall—Canadian Industries, Ltd.; J. D. Converse, Gen. Mgr. Liquid caustic potash. Est. date of Oper., Mid-1960. \$500,000.

Etobicoke—Grinnell Company of Canada Ltd.; 10 North Queen St. Prefabricated systems—wide range of fittings, steel flanges, hangers, valves, unit heaters and industrial supplies. Under Constr. 7-acre site. 100,000 Sq. Ft.

Etobicoke—Standard Wire and Cable Ltd.; Hwy #27. Electric wire and cable. Under Constr. Est. date of Oper., March 1960. 14-acre site. 130,000 Sq. Ft. \$1 million.

Port Elgin—Hydro-Electric Power Commission; Electric power. (Nuclear reactor) Est. date of Constr. 1961. Est. date of Oper., 1965. \$60 million. (B)

Scarborough—Ampeco Ltd.; 2137 Lawrence Ave. Synthetic pearls and costume jewelry. Est. date of Oper., early, 1960. 1.3-acre site. 12,000 Sq. Ft.

Toronto—Armalite Company Ltd.; 907 Oxford Street. Metal finishing requirements including anodes, cleaners, buffs, buffing compounds, and tans and equipment used in plating for nickel, chromium, copper, zinc, and cadmium and in anodizing aluminum and phosphatizing metals. In Oper. 30,000 Sq. Ft.

Toronto—Cromac Chemical Company; 203 Bentworth Ave. Paint removers, rust removers and cutting oils, and also distributes degreasing solvents and oil absorbents. In conjunction with its service to the metal-working industries, the firm also builds degreasing machinery. Under Constr. 16,000 Sq. Ft.

Toronto—Cweco Industries Ltd.; 100 Jutland Rd. Acoustic tiles and panels, including fibreboard, perforated asbestos board, perforated metal pans, perforated gyprock panels, glass fibre tiles and mineral tiles, in addition to perforated hardboard sheets. Est. date of Oper., Dec. 1959. 2-acre site. 12,000 Sq. Ft.

Toronto — Danfoss Manufacturing Co. Ltd.; Lake Shore and Dixie Roads. Automatic equipment for the heating, refrigeration, and electric industries and including thermostatic equipment; controls and valves. Self-contained thermostatic radiator valve, which operates without electrical connections. Est. date of Oper., Feb. 1960. 4-acre site. 10,000 Sq. Ft.

Toronto—Dominion Milton Ltd.; 37 Jutland Ave. Folding paper boxes. Under Constr. Est. date of Oper., end 1959. 60,000 Sq. Ft.

Toronto—National Knitting Mills Co., Ltd.; 300 Campbell Ave. Children's knitted outerwear. Est. date of Oper., end 1959. 50,000 Sq. Ft. (D)

Toronto—Plastiglide Ltd.; Mr. M. H. Willets, V. Pres. & Gen. Sales Mgr. 241 Bridge-land Ave. Brass swivel & plastic glides used on legs for tables, chairs, television cabinets and other furniture. Also thermoplastic parts. In Oper.

Toronto—Ralston Purina Company Ltd.; Mr. George E. Pierce, V. Pres. Hwy 122. Cereal plant. Breakfast foods. Under Constr. Est. date of Oper., Fall, 1960. 17-acre site. 62,500 Sq. Ft. \$1 million.

Toronto—Regal Toy Ltd.; S. F. Samuels, Pres. 35 Jutland Ave. Dolls and plush toys. Under Constr. Est. date of Oper., Jan. 1960. 50,000 Sq. Ft.

Trafalgar—Lux Time (Canada) Ltd.; Mr. Fred Lux, Gen. Mgr. 1064 South Service Rd. Industrial timing devices, range controls, dryer and washing machine timers. In Oper. 10,000 Sq. Ft. (B)

### PRINCE EDWARD ISLE QUEBEC

No Plants Reported.

### SASKATCHEWAN

Hudson Bay—Wizewood Products, Ltd.; Water board for interior and exterior use in building construction. Est. date of Oper., Summer, 1960. \$2.5 million. (B)

Regina—Prairie Metal Products, Ltd.; H. A. Gillis, Pres. Sheet metal products—Culverts, truck tanks, aluminum semi-trailer tanks, storage tanks for farm and industrial use, and well cribbing. Under Constr. \$250,000. 3½-acre site.

Saskatoon—Federated Co-operatives Ltd.; Feed mill. Under Constr. \$1 million.

Saskatoon—Gevrolet of Canada Ltd.; Alfred Tompkins, V. Pres. Shotgun shells. Est. date of Oper., Spring, 1960. \$600,000. (B)

Weyburn—Electroiler Manufacturing Co., Ltd.; Bernard Isenman, Mng. Dir. Manufacture, assemble, and distribute lighting fixtures for industrial, commercial and residential use. Est. date of Oper., Nov. 1959. 36,000 Sq. Ft. (B)

### FOREIGN

Africa—Mombasa. Shell Co.; Shell Co. of East Africa, Ltd., and British Petroleum have signed an agreement with Kenya for construction of a \$36 million refinery at Mombasa. Completion date: 1963.

Africa—Transvaal. African Explosives and Chemical Industries; Urea, modern form of nitrogen. Under Constr. Est. date of Oper., June, 1960. \$28 million.

Africa—Tsumeb. A new plant for the production of Germanium is being erected at Tsumeb, South-West Africa, will probably be in operation there about July, 1960. In addition, a magnetic separator plant, already in operation, will recover the mineral completely and at relatively low cost. The completed facilities will enable the Tsumeb firm to produce and sell germanium more competitively than ever before.

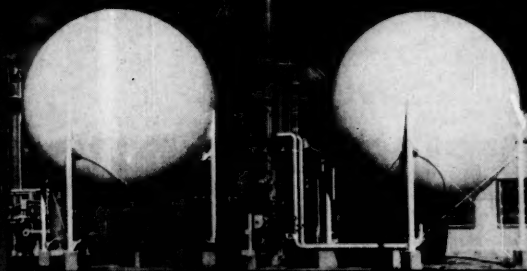
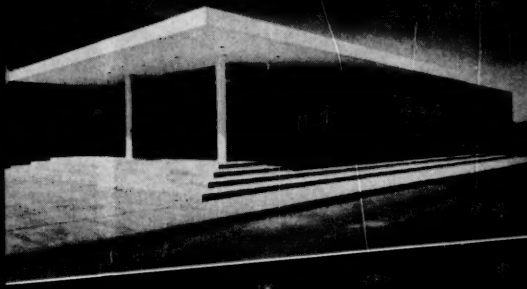
Brazil — Florencio Varela. Abbot has started up its \$3.25 million pharmaceutical plant at Florencio Varela, Buenos Aires province. Products include film-tabs, embutal, and pentothal-sodium.

Cuba—General Electric Cubana, S.A. Electric lamp Mfg. Plans announced. \$2 million.

Egypt—Cairo. Pfizer has set up a company in Cairo to produce broad-spectrum antibiotics, will build a \$500,000 packaging plant.

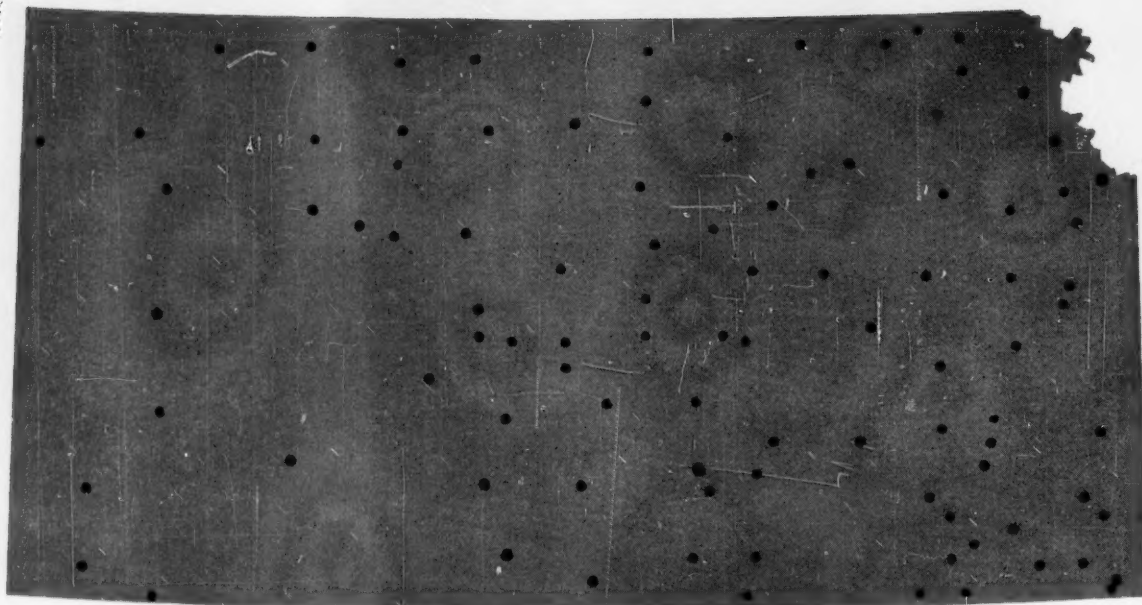
France — Firestone Tire & Rubber Co.; Harvey S. Firestone, Jr., Chmn. Tires and tubes for passenger cars, trucks, busses, farm equipment, motorcycles, and scooters. Also special synthetic latices and copolymers for butadiene and styrene. Est. date of Oper., Late 1960. \$Multi-million.

Japan—Mihara. Teijin Chemical; Polycarbonate resins and other synthetic organic chemicals. Plans announced. \$2.3 million.



# KANSAS





# COMMUNITY COOPERATION—

**"I**N answering any and all inquiries that come to me concerning my community from now on, I intend to use copies of our Registered Community Audit. It's the most comprehensive source of information we have."

That assertion was made to your I.D. reporter by M. L. Goddard, manager of the Chamber of Commerce at Liberal, Kansas. His view, we discovered, is typical of the opinions held by scores of development leaders in the Kansas cities and towns which have audits on file in the National Community Audit Registry of I.D.

Currently, in excess of 90 Kansas communities, more than in any other state, have Registered Audits which contain in brief, easy-to-follow outline, all the basic essential data about the area concerned. To you, the site seeker,

it means that these Kansas cities and towns are in a position to be unusually helpful in pinpointing location factors.

Major credit for Kansas' lead in Registered Audits goes to the Kansas Industrial Development Commission which, as part of its aggressive activities to promote industrial growth in the state, set up a special program encouraging the individual communities to get completed audits into the Registry.

Another enthusiastic supporter is D. A. Nesmith who is in charge of the industrial survey program at Kansas State University. In his job he is in constant touch with various towns and cities in the state to help guide them in planning and growth activities. His comment was: "The Community Audit is the most compact and comprehensive

community analysis I've ever seen. In fact, many local development officials learned things they didn't know before about their own towns when they started digging up the information necessary in filling out the Audit forms."

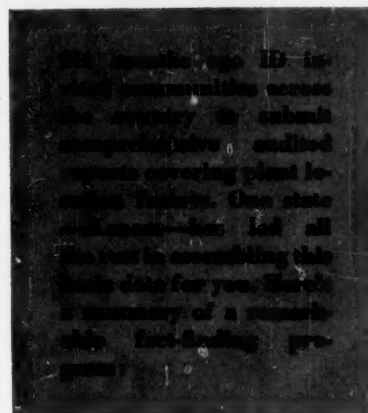
The I.D. staff learned a lot about Kansas, too, from an analysis of the audits, supplementing the general material gathered about the state in an extensive motor tour. In subsequent portions of this report on the location factors in Kansas, we will use material from the audits to draw important conclusions that will aid you in your consideration of the state as the possible site for an industrial or business facility.

Let's take a look, then, at Kansas as it is today, a state in which great changes have taken and are taking



### Registered Communities In The State of Kansas:

Abilene	Emporia	Kansas City	Ottawa
Anthony	Eureka	Kingman	Paola
Arkansas City	Fort Scott	Larned	Parsons
Atchison	Fredonia	Lawrence	Phillipsburg
Augusta	Galena	Leavenworth	Pittsburg
Baxter Springs	Garden City	Liberal	Plainville
Belleville	Garnett	Lindsborg	Pratt
Beloit	Girard	Lyons	Russell
Bonner Springs	Goodland	Manhattan	Sabetha
Burlington	Great Bend	Marion	Salina
Caney	Hays	Marysville	Scott City
Chanute	Herington	McPherson	Seneca
Cherryvale	Hiawatha	Medicine Lodge	Smith Center
Clay Center	Hill City	Minneapolis	Stafford
Coffeyville	Hillsboro	Neodesha	Sterling
Colby	Hoisington	Newton	Stockton
Columbus	Holton	Norton	Topeka
Concordia	Horton	Oakley	Ulysses
Council Grove	Hugoton	Oberlin	Wakeeney
Derby	Humboldt	Olathe	Wamego
Dodge City	Hutchinson	Osage City	Wellington
El Dorado	Independence	Osawatimie	Wichita
Ellinwood	Iola	Osborne	Winfield
Ellis	Junction City	Oswego	Yates Center
Ellsworth			



# KEY TO KANSAS GROWTH

place. As Chancellor Franklin E. Murphy of the University of Kansas put it: "In the past, our most expensive export was brains. Now, however, with the new industrial opportunities that are opening up, more and more of our best students are staying in the state to take advantage of what is offered here."

## The Kansas Income

One of the most significant changes indicative of progress in Kansas is the overall growth in personal income and the sharp rise in manufacturing payrolls in recent years.

Figures supplied by the Kansas Industrial Development Commission show that in 1958 total personal income in the state passed the four billion-dollar mark for the first time. The total of

\$4.234 billion ranked the state 26th among the continental states. Per capita personal income was \$2,001, or 97.3 per cent of the national average.

Significant, too, is the fact that for the past six years manufacturing payrolls have been the largest single factor contributing to the state's personal income. Prior to that time, agriculture was the dominant factor.

Beginning in 1952 manufacturing payrolls have totaled more than half a billion dollars annually, and in 1958 the figure was \$590 million, only five per cent less than the record of \$624 million established in 1957. All indications now are that when final tabulations are in, 1959 will have set another new record.

On a percentage basis, manufacturing payrolls last year contributed 13.9 per cent of the personal income total in

Kansas. Other major factors in the income picture were farm net income and payrolls, 13.5 per cent; property income, 12.8 per cent; proprietors' non-farm, 11.3 per cent; trade payrolls, 9.9 per cent; federal payrolls, 6.4 per cent, and state and local government payrolls, 6.3 per cent.

Developing along with the growth in income has been a continuously expanding system of banks, life insurance companies and loan associations.

The 169 national banks, 423 state banks and three trust companies in Kansas have total deposits well in excess of \$2 billion. Thirteen life insurance companies have home offices in the state, and about one-fourth of their assets are invested in Kansas. The 74 savings and loan associations operating under state charter have well above

# LET THE MAN FROM PITTSBURG SOLVE YOUR PLANT SITE PROBLEMS

**LOCATION**—Central America for all markets and materials.

**TOPOGRAPHY**—Level terrain with no flood hazard.

**TRANSPORTATION**—Four Railroads—Four Federal and State Highways—Airport with Ozark service.

**INDUSTRIAL SITES**—City owned tract strategically planned and located for industrial development.

**LABOR**—Excellent availabilities from common through all skills. Right-To-Work State in effect.

**EDUCATION**—State College, three Senior High, three Junior High, Six Elementary and one parochial.

**UTILITIES**—Adequate and consistent supply of gas and electricity, plus quality water even to three million gallons per day to new industry, coal at it's source for stand-by.

**COMMUNITY**—A city uncluttered by metropolitan viewpoints, industrially minded civic attitude.

**FINANCING**—To responsible parties by Pittsburg Development Corp., lease and lease-purchase arrangements.

*We invite your inquiries*

**CHAMBER OF COMMERCE  
PITTSBURG  
KANSAS**

## KANSAS

\$237 million in assets, while the 30 federal associations have assets of more than \$235 million.

### People—The Greatest Asset

The rise in Kansas manufacturing activities and in income has resulted, of course, from the combination of many things. However, the abilities and skills of the state's people have supplied the basic means for implementing growth.

You sense this immediately when you see Kansans at work, whether it be in an aircraft plant at Wichita, a trailer manufacturing operation at Newton, or a cellophane plant at Tecumseh.

Herb Hollinger, public relations man at Boeing Aircraft Company in Wichita, commented, for example, that the plant has only one and a half to two and a half per cent turnover of workers a month. That compares with an industry average of three per cent.

In response to a question about how well the workers handled the multiplicity of operations at the Cessna Aircraft Company plant, also at Wichita, Cessna official Bill Robinson commented: "Kansas workers are easily trained for highly skilled jobs. Absenteeism is negligible, and our men want to show up even if there is a blizzard."

On the occasion of the opening of Du Pont's new cellophane plant at

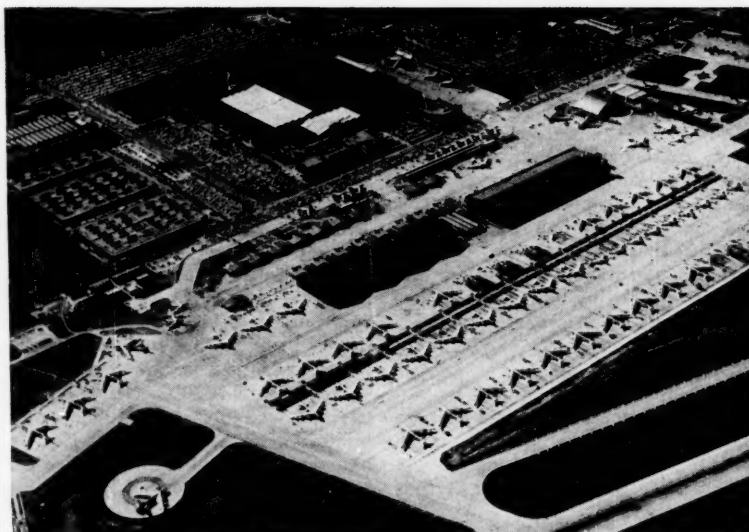
Tecumseh this past May, Manager Donald F. Carpenter of the company's Film Department observed that the "sound and substantial" people of Kansas "look for the long-term good rather than the illusory temporary advantage."

Another significant comment on Kansans was made by General Manager Robert D. Love of Love Box Company, Inc., at Wichita. He told I.D. that, "We are still very much a first generation people, and with only 23 to 25 per cent of the state organized, it does not seem likely that we will ever have the turmoil that some of the other states have seen. The background of most of our industrial employees is the farm, and they still are not too far away from having worked for themselves. . . . The turnover in the major industries and in the good, stable, money-making companies of our state, I would say, is quite small. Wildcat strikes are practically unheard of in Kansas."

Mr. Love added that the state's labor force may be regarded as its greatest asset. It is highly skilled and has the "right attitude."

These views are well substantiated in figures taken from an I.D. analysis of the Community Audits of Kansas cities.

For instance, in communities in the 2,000 to 10,000 population group, with a total of 58 audits, the average num-



The largest industry in Kansas is the Wichita Division of Boeing Airplane Company. The entire facility, including two plants, covers 603 acres, and present employment totals approximately 23,500. During 1958 Boeing payrolls in Wichita directly supported some 96,000 persons. Shown here are rows of B52G missile bombers on the flight ramp of the plant. The original facility was constructed in 1941 for the production of B-29 Superfortresses.

ber of workers belonging to unions was 10.1 per cent. During the past five years only four firms had work stoppages resulting from strikes and which affected as much as five per cent of the total labor force of the community. Also, only 1.51 per cent of the population in these communities is foreign born.

In communities in the 10,000 to 25,000 population group (18 audits), an average of 32.3 per cent of the manufacturing workers belonged to unions, and only one company was affected by a serious strike in the five-year period. In these cities the proportion of foreign born was 1.85 per cent.

The two Kansas cities in the 25,000 to 50,000 population category, which have audits in the National Registry, have an average of 37.5 per cent of workers in unions. Only one company has been halted by a serious strike and the average number of foreign born is two per cent.

The three largest cities in the state, with populations of 100,000 or more, reported 55 per cent union membership and only one firm with a strike in the past five years. Two per cent of the population is foreign born.

An interesting sidelight on the Kansas labor picture is the fact that the state has a large segment of popu-

lation belonging to the Mennonite faith which prohibits membership in labor unions. The greatest concentration of Mennonites is in an area extending from Topeka southwestward along the Santa Fe railroad.

#### Kansans at Work

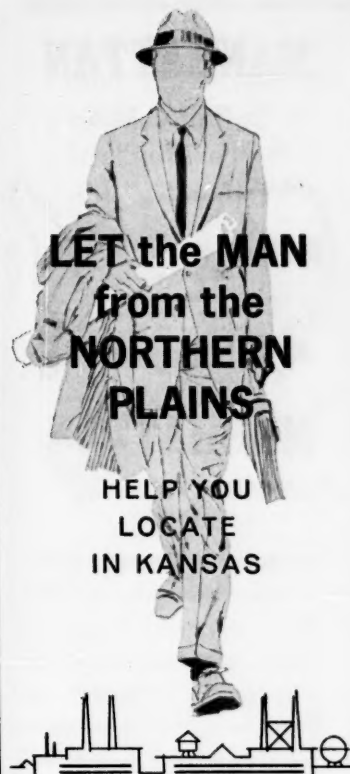
A study of figures on employment in Kansas as a whole shows that as of mid-1959 the number of employees in establishments subject to the Kansas Unemployment Security Law totaled 341,000. The latter does not include the approximately 108,000 employed in federal, state and local government activities. These, along with workers in certain other categories, brought the total in nonagricultural pursuits to an estimated 534,000.

Unemployment in Kansas amounted to a little more than five per cent of the total labor force, according to estimates by the Kansas Department of Labor.

A breakdown of the figures on covered employees showed 118,443 in manufacturing, 100,276 in wholesale retail trade, 31,121 in transportation, communications, utilities and sanitary services; 25,642 in service activities, 29,271 in contract construction, 16,697 in mining, 17,346 in finance, insurance and real estate, and 2,496 in agricul-



The Love Box Company at Wichita is one of the established industries in Kansas which has enjoyed a steady growth. General Manager Robert D. Love attributes much of the company's success to the high quality of workers available. Noting that wildcat strikes are virtually unheard of in Kansas, he added that the state's labor force may be regarded as its greatest asset, since it is highly skilled and has the "right attitude."



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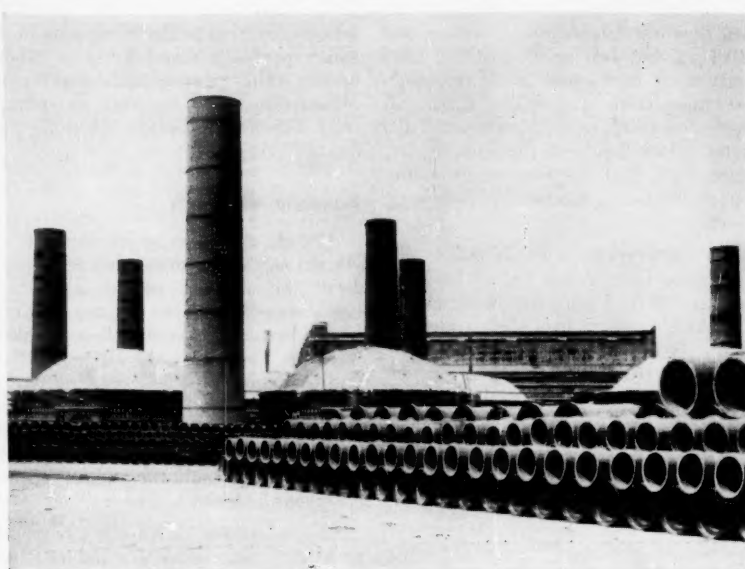
- Tuttle Creek Reservoir (16,000 acres) only 5 mi. from Manhattan is destined to become one of the major recreational attractions of this mid-western area.

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PHONE: PR 8-3569**

**MANHATTAN, KANSAS**

**"ONE OF THE FINER CITIES"**

## KANSAS



The value of clay and clay products produced in Kansas is averaging more than \$10 million a year. An example of an industry utilizing this resource in the state is the Dickey Clay Manufacturing Company at Pittsburg. This firm produces sewer tile and has developed an exclusive self-locking tile that speeds work greatly because it needs no cementing or treating of joints.

ture, forestry and fisheries.

Reflecting the rapid growth of industry in Kansas is the fact that the number employed in manufacturing activities increased from an average of 74,624 in 1947 to a 1958 average of 118,800. That gain, 59.1 per cent, compared with a national average increase of 1.1 per cent!

A further breakdown of the manufacturing figures showed that the greatest number of persons employed at mid-year were the 42,700 in transportation equipment. Aircraft production employed 36,900, while food accounted for 21,900.

Other important categories included machinery manufacturing, with 9,100 workers; chemicals, 5,800; stone, clay, glass, 7,000, and petroleum and coal, 4,800.

Latest available figures showed wages in manufacturing averaging \$2.28 an hour, while those in mining were around \$2.35 and in contract construction, about \$2.65.

### "Right to Work" Law

Added to the Kansas State Constitution by popular vote in 1958 is a "right to work" provision which is of major importance to any industrialist considering the state for location of a plant.

The amendment reads: "No person shall be denied the opportunity to obtain or retain employment because of membership or non-membership in any labor organization, nor shall the state or any subdivision thereof, or any individual, corporation, or any kind of association enter into any agreement, written or oral, which excludes any person from employment or continuation of employment because of membership or non-membership in any labor organization."

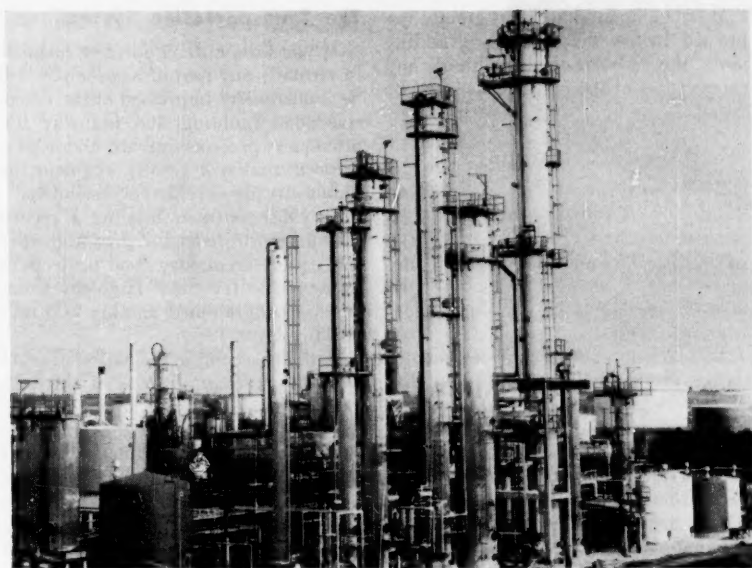
For the protection of workers, Kansas requires coverage of employees by workman's compensation in certain hazardous employments. In general, manufacturing activities are considered to be hazardous, and employers of five or more workers are assumed to come under the act unless they elect otherwise. In mines and building work, employers are assumed to be under the act without regard to the number of workers employed.

Unemployment compensation in Kansas covers those who employ four or more persons. Maximum weekly benefits are \$40, and the maximum time for payment is 26 weeks.

### Kansas Industry Today

Providing the jobs that have enabled Kansas to forge ahead so fast indus-





Kansas has long been among the leaders in oil production and refining, the 1958 volume of output being estimated at \$361 million. This is the first petrochemical plant to be built in the state. It is operated by Vickers Petroleum Company and will produce 15 million gallons of benzene, toluene, xylene and other petroleum aromatic solvents annually.

trially are more than 3,540 manufacturing and processing plants currently in operation. Of that total, 1,400 of them have been developed in or have moved into Kansas during the past 20 years.

That this growth is continuing may be seen in a special tabulation made by the research department of INDUSTRIAL DEVELOPMENT. The summary showed that from January through November, 1959, I.D. reported the location in Kansas of 36 important new manufacturing facilities. Since only those plants which employ 25 or more persons are tabulated, the total does not include many smaller but still significant manufacturing operations which have been located in the state during this year.

Expenditures for new plant and equipment in Kansas totaled \$64.5 million in 1955; \$89.4 million in 1956; \$89.2 million in 1957, and \$68.8 million in 1958. The rapid recovery from the recession of the latter year indicates that the trend is again upward in 1959.

While industry in Kansas is well diversified, the state is noted for its aircraft plants, several companies having installations there. The largest single expenditure on new plant in the state last year, for example, was the \$53 million spent by Boeing Aircraft at

Wichita.

Present employment at the Boeing installation is approximately 23,500. Current production is concentrated on the eight-jet B-52D heavy bomber for the Air Force.

The Wichita Division includes two plant facilities. Plant I is Boeing-owned and has 328,666 square feet of area under cover. Plant II is government-owned and this, with the other building, gives the company more than 5.769 million square feet of covered plant area. The entire facility, including the two plants, covers 603 acres.

Current production is concentrated on the eight-jet B-52D heavy bomber for the Air Force.

During 1958 Boeing payrolls in Wichita directly supported some 96,000 persons, and the payrolls totaled approximately \$154.590 million.

Also at Wichita is the very well known Beech Aircraft which produces a variety of "Beechcraft" executive airplanes in single and two-engine models, as well as items for defense. In the latter category is the Beech-designed KDB-1 missile target now in production for both the Army and Navy.

The 27-year-old company has enjoyed a long range growth, and this past August, for example, sales of \$6,155,768 gave the organization the

## WHY ARE SO MANY INDUSTRIES LOCATING AND EXPANDING IN THE KANSAS POWER AND LIGHT COMPANY'S TERRITORY?

KANSAS

*all this...*

One of the factors attracting diversified industries is the unsurpassed research and development facilities available. Both of Kansas' major state universities as well as one of the nation's outstanding research organizations are located in the area.

The University of Kansas' Research Foundation... makes available a skilled staff and specialized research equipment for consultative help to industry.

Kansas State University's Division of Engineering and Industrial Services... provides technical assistance to industrial and agricultural interests.

Midwest Research Institute... supplies scientific and engineering research as well as laboratory facilities in all industrial fields.

*... and more, too!*

Industries also have found those other elements of a favorable industrial climate are available in this area, including:

1. A stable balanced economy
2. Central location for all markets
3. Excellent transportation
4. Ample low-cost electric power
5. Diversified native labor supply
6. Plenty of cheap natural gas
7. Good industrial sites
8. Abundant minerals and raw materials
9. Cooperative government attitude
10. Outstanding recreational facilities

Write for further information on the many advantages of locating in Kansas. Your inquiry will receive full and confidential consideration. Please address: W. L. Perdue, Industrial Development Dept., The Kansas Power and Light Company, 809 Kansas Ave., Topeka, Kansas.



largest dollar-volume month in its history. It has a record of employment stability, having 4,069 employees who have been with the company five or more years.

A third manufacturer of planes in Wichita is Cessna Aircraft Company which claims to be the world's leading producer of business utility aircraft. It also manufactures military aircraft, military sub-contract components, industrial products and electronics equipment.

In February, 1959, Cessna acquired Aircraft Radio Corporation which operates as a wholly-owned subsidiary and marks the company's entrance into the electronics field. In addition to the latter, Cessna's various divisions operate four big plants. The company had its beginnings in 1911 when the late Clyde V. Cessna flew his first plane from a field near Enid, Oklahoma. The organization was established officially as a company at Wichita in 1927.

The big new Du Pont operation at Tecumseh, which is near Topeka, is a multimillion-dollar plant which has an annual capacity of 50 million pounds of cellophane and exemplifies the Kansas trend toward increasing diversification. Wages and salaries paid by the plant total close to \$3 million annually, while its purchases of goods and services run about \$2 million a year.

In commenting specifically about the Topeka area, Du Pont official Carpenter

said his company had been greatly impressed by its welcome there, adding that, "the enthusiasm, friendliness and cooperation of the community must be tasted to be fully appreciated."

## The Nation's Crossroads

Why have these plants located in Kansas? Again we may say that Kansas sites were selected as the result of a variety of factors but, as most any executive here will tell you, one of the biggest plus factors is the state's geographic location.

A glance at a map of the continental United States will remind you that Kansas sits at the nation's geographical center, an area of 82,276 square miles that is roughly equidistant from the Atlantic and Pacific coasts and from the northern and southern borders.

Thus, from a Kansas location you can distribute your products in any and all directions to reach — depending upon your particular operations — big markets at the state, regional or national levels, or all three. Significant, too, is it that the nation's population center is gradually moving westward which will make Kansas even more strategic marketwise than it is today.

In addition, a factor of rising importance in this age of rocket-powered missiles is dispersal. In that connection Kansas is ideal, since its location is one of the farthest points from any likely enemy strike which may be made from any direction outside the country.

## The Transportation System

If you take a drive for any distance in virtually any part of Kansas you will be immediately impressed at the extensive road building and highway improvement projects that are under way, projects that will greatly augment the state's already excellent accessibility.

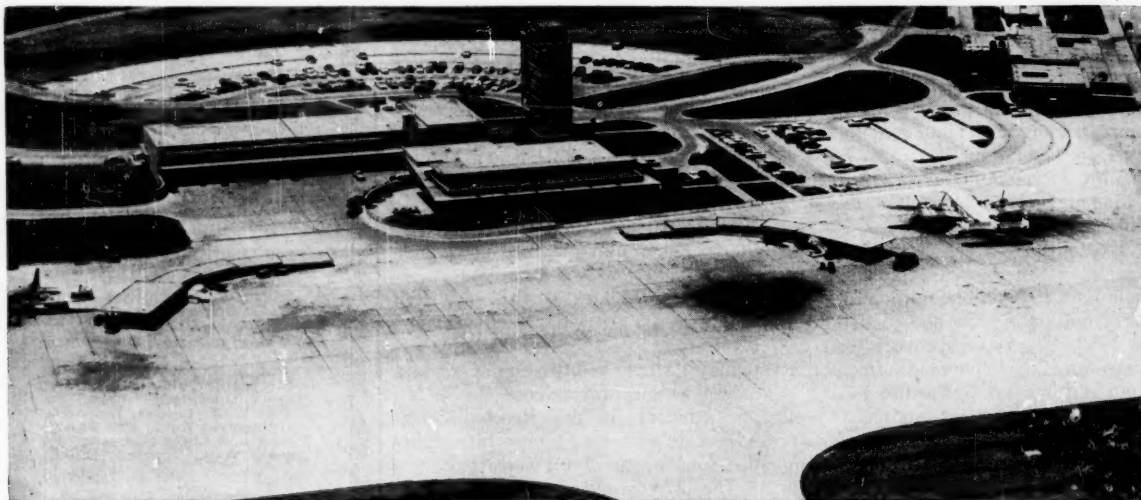
In 1958 contracts totaling a record \$80 million were let for state highways and county secondary road projects in Kansas, and the State Highway Commission programmed another \$80 million for 1959.

Ranking second in the nation in rural highway mileage, Kansas is third in total highway and city street mileage. East-west Route 70 on the Interstate Highway system goes directly through Kansas. A portion of this has been completed in the Topeka area, and construction is underway on other major portions of it, some \$40 million of the 1959 expenditures being devoted to this.

North-south Route 35 intersects Route 70 at Kansas City, Missouri, and crosses Kansas diagonally to Wichita and on southward. In addition, Route 35W on the system connects Wichita with Route 70 at Salina.

Within the state more than 1,700 motor vehicle common carriers provide service over 800 interstate routes and 1,000 intrastate routes.

Besides these transportation facilities, the 16 railroad companies operating in Kansas have 8,705 miles of railways in the state. That figure is 3.8 per cent of



Kansas has 191 airports, 107 of which are public while 84 have limited use. Ranked as one of the nation's finest is the airport at Wichita. This modern terminal cost in excess of \$10 million and is located only six miles southwest of the city. An interesting feature is that the airport is headquarters for the National Flying Farmers Association.

## KANSAS

the nation's total and ranks Kansas fifth among the states in railway mileage. Since six major transcontinental railroad routes crisscross Kansas, you will find no problem in the movement of freight by rail to all parts of the nation.

Extensive air service is provided by major transcontinental lines, and the state has 191 airports, 107 of which are public and 84 of which have limited use.

In line with the fact that the state is a center for the production of personal aircraft, Kansas ranks 11th in the ownership of such planes. Latest available figures showed 2,308 registered aircraft, amounting to 2.4 per cent of the national total.

Water transportation is provided on the Missouri, serving Atchison, Leavenworth and Kansas City. Shipments via the river in the state run to more than four million short tons annually.

### Energy for Industry

Kansas is well supplied with electric power organizations. A new compilation of figures shows seven privately-owned companies, 124 municipal systems and 36 rural electric cooperatives.

The private companies are the major suppliers of electricity, and chief among these are Kansas Power and Light Company, with general offices in Topeka; Kansas Gas & Electric Company, Wichita; Western Light & Telephone Company, Inc., Great Bend; Kansas City Power & Light Company, Kansas City, Missouri, and Central Kansas Power Company, Hays.

Over the 10-year period through 1958, production of electrical energy in Kansas increased by 109 per cent to an estimated total of 6.5 billion kilowatt hours last year, reflecting the ever-growing demand for power in the state.

The private companies have hundreds of millions of dollars invested in plants, and continuing expansion programs are under way to meet future needs.

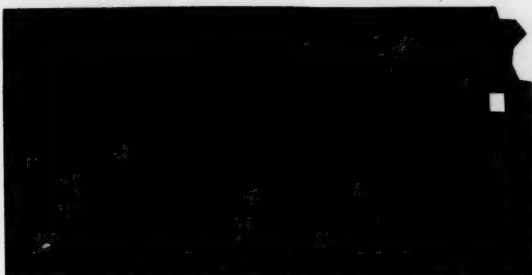
Kansas Power and Light, for instance, spent \$9,578 million for new construction in 1958, while the 1959 program was to reach approximately \$15.6 million.

In the same pattern, during the five-year period 1957-'61 Kansas Gas and Electric Company will have spent an estimated \$67 million on new construction.

Kansas City Power & Light had construction expenditures estimated at \$24.5 million for 1959, and for the four years 1959-'62, the estimate totals

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PARSONS, KANSAS

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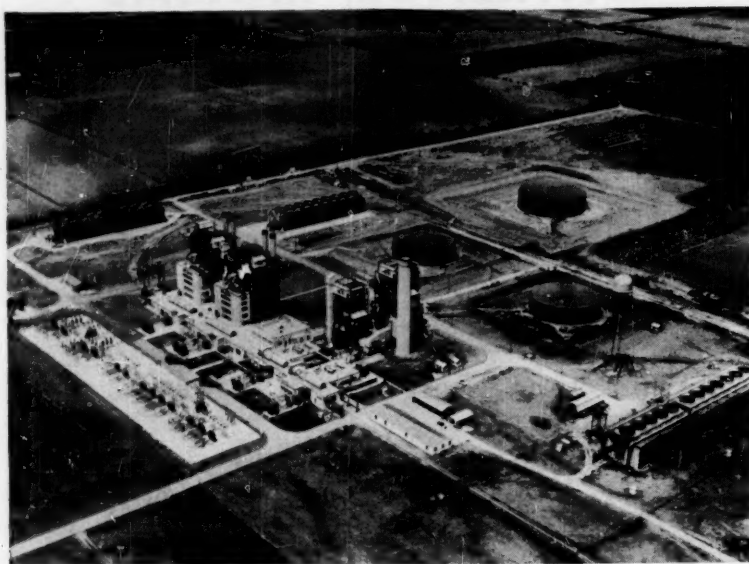
For Detailed Information Contact:

**MID-AMERICA, INC.**

W. H. CALDWELL, Executive V. P.  
PARSONS, KANSAS







A network of privately-owned electric utilities plus a number of municipal systems and REA co-operatives bring adequate power to all parts of Kansas. Southwest of Wichita is this Murray Gill plant of Kansas Gas and Electric Company. The fourth and last unit of this facility, with a capability of 370,000 kilowatts, went on the line early in 1959. The plant is not located on a river, as steam-electric generating units usually are, as it takes advantage of the large underground water reservoirs in south central Kansas.

approximately \$86 million for additions and improvements.

These programs are typical of power growth in Kansas and indicate that the state is well prepared to supply electrical needs for future developments.

Likewise, Kansas has an abundant supply of natural gas, at low cost, right at hand, for gas is the second leading mineral in the state. There are some 27 gas utility companies supplying in the neighborhood of half a million customers. Long-range construction programs in progress will take care of future demands for gas in Kansas.

### Kansas Tax Structure

Of particular importance to you in your contemplation of locating in Kansas is the fact that the state has no bonded indebtedness. Turnpike bonds were not sold with the backing of the full faith and credit of the state, as redemption is based upon revenue alone. It is noteworthy that the Kansas Constitution prohibits creation of any state indebtedness in excess of one million dollars unless it is authorized by a direct vote of the people.

Both domestic and foreign corporations doing business in Kansas are subject to a tax of 3.5 per cent on the net income derived from property located and business transacted in the state during the taxable year.

Net income of residents of Kansas, and the net income of non-residents derived from sources within the state, is subject to tax on a graduated rate as follows: First \$2,000, 1.5 per cent; next \$1,000, 2.5 per cent; next \$2,000, 3 per cent; next \$2,000, 4 per cent, and 5.5 per cent of all over \$7,000. Any tax paid by a resident of Kansas to another state on income derived from sources in that state is allowed as a credit against the Kansas tax, as are federal income taxes.

In the property tax field, the general tax is assessed and administered through local taxing districts and applies generally to all real and tangible personal property.

The state does not levy a state property tax for general fund purposes, only for a permanent fund for eleemosynary institutions and an educational building fund for institutions of higher learning. In 1958 Kansas levied a state property tax of 1.75 mills.

The official "Assessment Ratio Study, State of Kansas" for last year shows an average ratio of 22.09 per cent. That is, property was assessed, on the average, at 22.09 per cent of its actual market value. In urban areas the ratio was 19.73 per cent, and in rural areas, 24.24 per cent. Industrial property located outside of a city would more probably be assessed at nearer the urban ratio.

At the average tax rate for areas outside cities (44.47 mills), this would mean a property tax the equivalent of about \$8.77 per \$1,000 of actual value.

On intangibles — money, credits, notes, etc. — the uniform state-wide tax rate in Kansas is 50 cents per \$100 or 3 per cent on income derived therefrom, at the option of the taxpayer.

### Corporation Fees

A Corporation requesting authority to do business in the state is subject to (1) an application fee of \$25; (2) filing and recording fee of \$2.50; and (3) capitalization fee — based upon the proportion of its issued capital which it proposes to invest and use within the state — of 1/10 of 1 per cent up to \$100,000 (minimum \$10), and 1/20 of 1 per cent of the amount in excess of \$100,000.

Corporations also are required to make annual reports and to pay annual fees (for "foreign" corporations based on such proportion of issued capital stock as is devoted to its business in Kansas). These fees include: On capital stock up to \$10,000, \$10; \$25,000 to \$50,000, \$25; \$50,000 to \$100,000, \$100; \$100,000 to \$250,000, \$125; \$250,000 to \$500,000, \$250; \$500,000 to \$1 million, \$500, and \$1 million to \$2 million, \$1,000. Also, \$500 for each additional \$1 million to a maximum of \$2,500 for over \$5 million capitalization.

Further, a manufacturer in Kansas is subject to a 2.5 per cent sales or use tax on machinery and equipment purchased. This tax does not apply, however, to materials becoming component parts of manufactured articles, to certain supplies expended in the manufacturing process, or to packaging materials.

On unemployment compensation taxes, the minimum rate is zero, based upon experience rating and size of the unemployment compensation fund balance. The maximum rate is 2.7 per cent.

During the past seven years the average rate for this tax in Kansas has been 1 per cent. Voluntary contributions are permitted to attain or retain a more favorable tax rate.

In a discussion of the industrial future of Kansas and the attitude of state government, G. W. Evans, president and chairman of Kansas Gas & Electric, characterized the business climate as "excellent" and declared that the state has "sound fiscal policies created by a



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Sewer, gas and water lines are in . . . a railroad spur is there. Everything . . . ready for your new plant.

Emporia, Kansas . . . whose very name denotes its commercial spirit . . . is on the main line of the Santa Fe Railroad.

Emporia invites your inspection. Your inquiry will be treated in confidence.



Kansas City has under way an extensive urban renewal program, a part of which is the development of Armourdale Industrial Park. The park has 60 acres of land, including streets, zoned for heavy industry and which will provide all necessary services, as well as protective covenants and codes. The architect's sketch shows how the fully developed park will look. This development is typical of many that Kansas communities are undertaking.

people who have an understanding and appreciation of our free enterprise system and what it means to them in the way of job opportunities."

Mr. Evans stressed that in addition to the generally favorable tax structure, "With location, climate, varied farm products, diversified mineral resources, ample low cost fuels, dependable and reasonably priced electric power, cultural and recreational facilities, and a reservoir of conservative labor working under a right-to-work law, the future industrial development of Kansas can't help but look excellent to me."

#### Land for Industry

The wide open spaces of Kansas offer plenty of room for industrial structures, and much of this land — even where essential services are available — can be had at a very reasonable cost. The majority of Kansas communities also have planning organizations which assure that your facility will have the advantages of proper zoning regulations.

These points were brought out in the analysis of the Community Audits. In the smaller cities, the 2,000 to 10,000

## consider GREAT BEND, KANSAS

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## for your plant location

Contact Great Bend Industrial Development, Inc. or Chamber of Commerce — P.O. Box 44 — Great Bend, Kansas

## KANSAS

group, industrial land is available free or \$1 an acre, on up to \$5,000 an acre. Twenty-five, or 43.1 per cent, of these communities have some kind of foundation or corporation offering funds to aid new industry, while planning organizations are functioning in 58.8 per cent of the towns.

The 10,000 to 25,000 population group of cities offer land at from \$75 an acre to as high as \$12,500. Thirteen of these communities — 72.2 per cent — have groups offering funds, while 94.4 per cent have local planning commissions.

Land costs in the 25,000 to 50,000 population cities vary from \$250 to \$2,000. Each has planning boards and organizations offering financial help to prospective industrialists.

The largest cities, 100,000 population or more have a wide variation in cost of land available, from \$400 an acre to \$13,000. Each has planning organizations but none in this group has any organization offering funds except private investment.

Planned industrial districts are located at strategic spots in all parts of Kansas.

Among examples of these is the Armourdale Industrial Park at Kansas City, which is being built as part of the city's big urban renewal programs. This area has 60 acres of land, including streets, zoned for heavy industry. It has all necessary services, protective covenants and controls, direct rail and highway services, and nearby air and barge services.

Also at Kansas City is Fairfax Industrial District, a planned development of the Union Pacific Railroad. This district has 2,000 acres adjacent to the Missouri River. It is protected by all necessary industrial restrictions and has all utilities and services.

Altogether, the Union Pacific has planned industrial properties in 18 strategic Kansas cities.

Other examples of carefully planned districts are the Topeka-Lawrence Industrial District, and the North End Industrial District, Midland District, and Southwest Industrial Area, the latter three being in Wichita.

Among the smaller communities which have outstanding planned industrial parks are Great Bend, Hays and Emporia. The district at Emporia is a particularly interesting example of what

### Take a look at WINFIELD, KANSAS

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- A wonderful place to live, work and play.
- Three railroads
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- Two colleges
- Vocational High School
- Churches of all denominations
- Accredited Hospitals
- Municipally-owned utilities
- Favorable labor supply
- Industrial sites available

*For further information write*

**Chamber of Commerce**  
**WINFIELD, KANSAS**

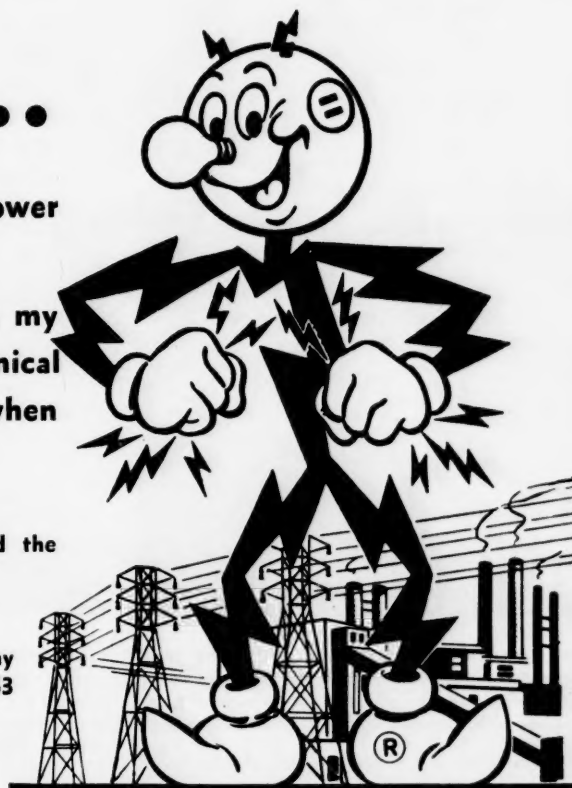
# I'm REDDY...

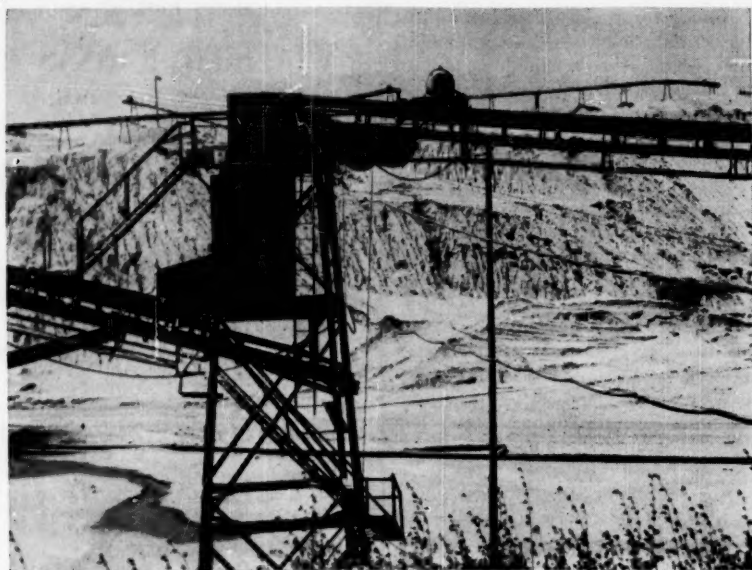
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The total value of mineral output in Kansas runs to well over half a billion dollars annually, and important in that picture is limestone, particularly in the southwestern part of the state. Here is a limestone quarry, one of the largest in Kansas, which is owned by Concrete Materials Construction Company.



Coal reserves in the eastern Kansas area are estimated at 900 million tons. Strip mining, as practiced in this mine near Pittsburg, is a low-cost method of production which allows lower costs to the consumers in the area. In 1958 the value of Kansas coal output was \$3.8 million.

can be accomplished by aggressiveness and determination. The local development corporation not only acquired the land, developed it with full services and utilities, and established all the proper zoning regulations, but also built a railroad to serve the area. This exemplifies the organized way Kansans are proceeding with activities to push business and industrial growth.

### Ground and Surface Water

Kansas has a permanent Water Resources Board, established by the 1955 legislature, whose function is to foster maximum utilization and conservation of water supplies.

Water is available in quantity from both surface and ground sources. Generally speaking, surface water is the chief source in the eastern half of the state, while ground supplies are the source in the western part.

The several larger streams in eastern Kansas can furnish surface water in amounts limited only by pump capacity, as many cities in this area are now obtaining adequate water supplies for industry from the major rivers and streams there. In addition, alluvial deposits along these streams offer large quantities of ground water.

While surface water in western Kansas is definitely limited, wells in the area can supply ground water at the rate of 500 gallons a minute. Many cities which get their water from wells have impounded supplies with reserves sufficient for large industry.

The great underground rivers which supply these wells are fed from snow melting on the slopes of the Rocky Mountains west of Kansas. Relatively close to the surface, the water can be reached by wells only 40 feet or so deep. Ground water temperatures in Kansas generally range between 56 and 60 degrees.

### Output of Minerals

Production of minerals in Kansas constitutes a major part of the Kansas Industrial picture, as the state actually ranks tenth nationally in mineral output.

Currently there are 22 basic minerals produced commercially, while five others are available for production.

The State Geological Survey estimated 1958 value of mineral output in Kansas at \$516.420 million. This was down 3 per cent from the all-time high of \$543.093 million of the previous year



## KANSAS

but marked the third consecutive year that the output value had exceeded the half-billion-dollar mark.

Reserves of these natural resources are such that they provide a big potential for development of additional industry. The salt reserves, for example, are estimated at five trillion tons.

Leading the mineral list in Kansas is crude petroleum, the 1958 value of output being estimated at \$361 million. In the same period, natural gas production was valued at \$59.2 million, ranking it second.

Value of other mineral production in Kansas, in order of importance, included: Cement, \$28 million; natural gasoline and liquified petroleum gas, \$13.9 million; stone, various kinds, \$13.1 million; salt, \$10.7 million; clay and clay products, \$10.2 million; sand and gravel, \$7.2 million; coal, \$3.8 million; zinc, \$800,000, and lead, \$220,000. Output of other miscellaneous minerals such as gypsum, volcanic ash, natural cement, carbon black, helium, diatomaceous marl, etc., added another \$8.3 million.

Thus, the additional development possibilities existing here are well worth investigating.

### The Role of Agriculture

Even though manufacturing has surpassed agriculture as a wealth-producing factor in Kansas, giving a better balance to the economy, farm activities rank high and will continue to be of prime importance in the total picture.


Tops, of course, is the famous Kansas wheat. The 1958 bumper crop totaled 252,000,000 bushels. It has gross value of \$821 million, a jump of 59 per cent over the 1957 yield of \$515 million. Last year's harvest also put Kansas back in its traditional position as the nation's No. 1 wheat producing state.

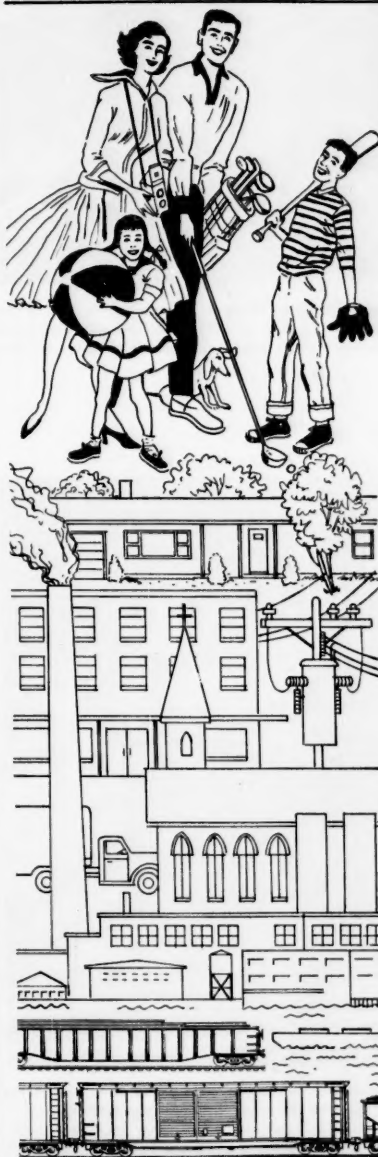
Including all other crops and livestock sales, cash farm income in Kansas was estimated at \$1.150 billion in 1958. The net income to farmers was in excess of \$500 million.

In addition to wheat, other Kansas crops of importance include sorghums, corn, oats, soybeans, barley, hay, alfalfa feed, sugar beets and others.

These provide the basis for substantial food processing industries, as do livestock products such as cattle, hogs, sheep and chickens.

Of interest in connection with the farm picture is the Agricultural Hall

**GEORGE W. KERFORD QUARRY COMPANY**  
**Phone 1206** **Atchison, Kansas**  
**CRUSHED LIMESTONE • AGRICULTURAL LIMESTONE**  
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 4 High Schools  
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 2 Golf Courses  
 3 Lakes  
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 2 Bowling Alleys

**GOVERNMENT ...**

Manager—Commission

**LOCATION ...**

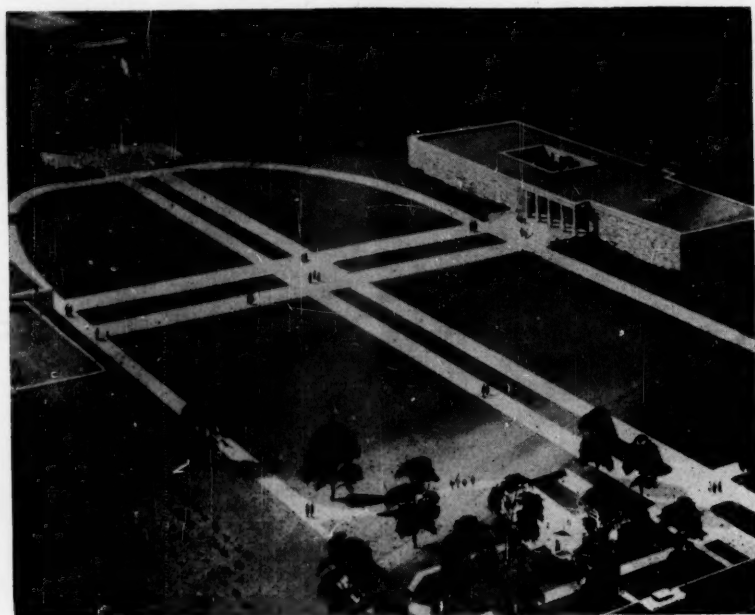
Heart of the  
 Midland Industrial Empire

**RESULT ...**

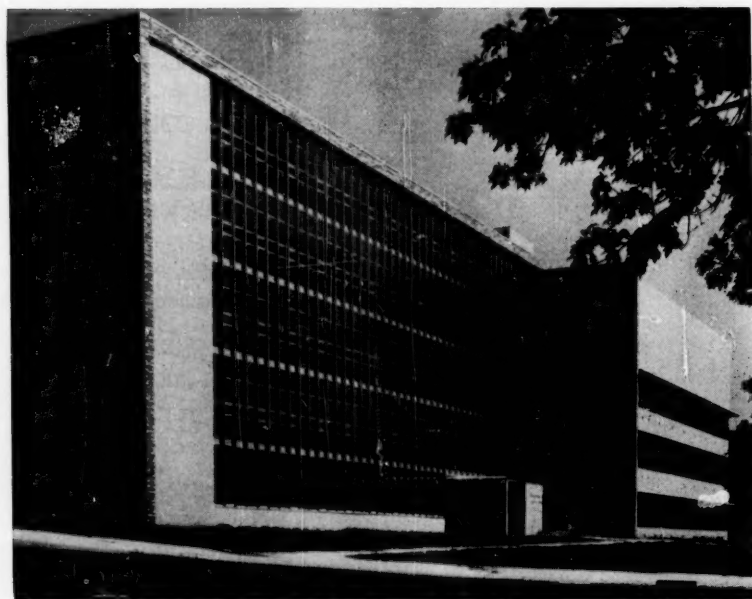
Over 40 Diversified Industries Enjoy  
 This Business Climate in a Community  
 of Less Than 20,000 Population.

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 CALL OR WRITE:

**ATCHISON CHAMBER OF COMMERCE**  
**ATCHISON, KANSAS**



The Eisenhower Center at Abilene, the boyhood home of President Eisenhower, is one of the state's major tourist attractions and includes the home, museum and a library. The museum houses the President's collection of souvenirs and mementoes which were assembled during his military career and presidential terms.



The new School of Business building at the University of Kansas exemplifies the progressive growth that is characteristic of this institution as well as other colleges and universities in the state. The building houses the Center for Business Research as well as other facilities. Teaching and research activities at the university embrace 10 academic divisions in which more than 9,200 students are participating. Its physical plant has a replacement value of \$50 million, and the operating budget is \$25 million annually.

of Fame which will be built near Kansas City on a 700-acre site of eastern Kansas farmland in the heart of the agricultural empire.

The Hall of Fame will be a national shrine aimed at telling the story of agriculture and the men and women responsible for its greatness.

It is organized as a non-profit organization with a pro forma charter. All development and construction costs will be met by voluntary contributions, and maintenance costs will be defrayed from admissions. More than 50 cities made a bid for the shrine, and the site near Kansas City was chosen by the organization's executive committee after careful study.

In its final form the shrine will include the Hall of Fame where persons great in agriculture will be honored, a museum that will tell the story of agriculture in dynamic fashion, an historical agricultural library, educational unit, an early American farm village, Indian village, outdoor amphitheater, a quiet retreat, small auditorium, and an area devoted to actual farming activities.

It is expected that construction will get under way in 1960. The whole project will cost approximately \$5 million and will be, architecturally, of the most modern and functional design.

The presence of this shrine will add greatly to cultural activities in Kansas and will attract additional thousands of tourists to the state.

### Education and Research

Backing up the other plus factors of Kansas is a remarkably progressive public school system, as well as many institutions of higher learning with high academic standings.

Public schools in the state — most of them brand new or completely remodeled — accommodate more than 400,000 students, and some 45,000 students are attending the 43 colleges and universities that Kansas has to offer.

The big University of Kansas, with campuses at Lawrence and Kansas City, is one of the dominant factors on the educational scene in the state, setting a standard that augurs well for all education here. As Chancellor Murphy expresses it, the University's task "is to challenge each and every student, whatever his individual ability, to extend himself to the outer limits of his capacity."

The University has 9,300 students and a faculty and staff of 2,000. It has

## KANSAS

an annual operating budget of \$25 million and a physical plant with a replacement value of \$50 million.

The recipient of many honors and awards for achievement, in its wide program it embraces the whole field of human knowledge from aeronautical engineering to zoology. Its teaching and research activities embrace ten academic divisions, including those at the Medical Center in Kansas City.

National recognition of the University as a center for research may be seen in the fact that during 1958-59 such agencies as the Atomic Energy Commission, Department of Defense, National Science Foundation, Public Health Service, as well as private foundations and corporations underwrote fundamental or applied research there in the amount of nearly \$3 million.

Further, in the fall of 1960 the University will have the first senior member of its new and unique Center for Research in Engineering Science. This is an independent, self-supporting corporation whose research activities and outstanding personnel will multiply graduate engineer enrollment, provide a major source of Mid-west industrial development, and bring other benefits reaching out on a national scale. Such assets as these are of incalculable benefit to industry in Kansas.

The Kansas Engineering Experiment Station of Kansas State University, Manhattan, likewise a big factor on the education and research scene, conducts tests, research and development work in such things as applied mechanics, chemical engineering, architecture and allied arts, business administration, chemical engineering, chemistry, civil engineering, economics and sociology, electrical engineering, geology and geography, industrial engineering and arts, mathematics, mechanical engineering, nuclear engineering, physics and psychology.

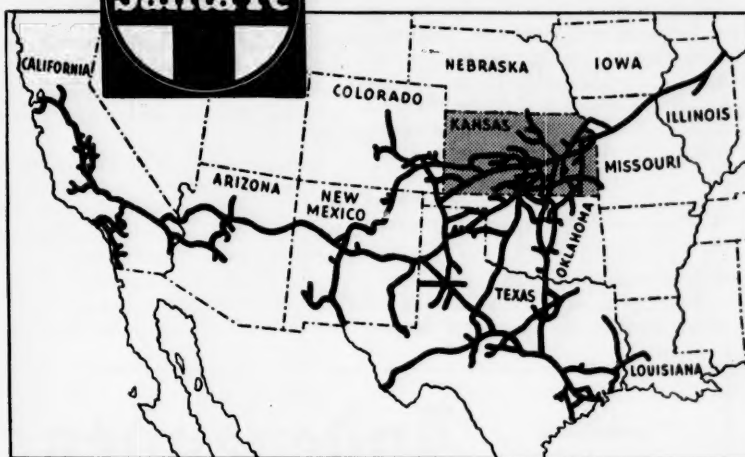
Of particular interest to industry are industrial survey services conducted by the Division of Engineering and Industrial Services. More than 90 surveys of Kansas communities have been carried out in this program. The Division also has an important program of city and regional planning services to help communities in the state with their industrial development programs. During the fiscal year ended June 30, 1959, 57 meetings or work sessions were conducted under this program in 17 Kansas communities.

# For Fine Plant Sites in KANSAS

and the fast-growing areas of the west and southwest



## Look Along Santa Fe



Let us prepare a survey to help you choose the best location for your plant in Kansas

We make it our business to know practically everything about every site along the Santa Fe's 13,081 miles of mainline track . . . about sites in Kansas situated within already-organized industrial districts, sites in open country, and sites in big cities, small towns and rural areas.

This wealth of information and the services of our Industrial Development Department are yours without obligation. And, of course, absolutely confidential. Just call or write:

Santa Fe Industrial Development Department

M. N. Nelson, Industrial Agent, Topeka, Kansas

## KANSAS

Located just across the eastern border of Kansas in Kansas City, Missouri, Midwest Research Institute — national in its scope — has rendered and is continuing to render important services to Kansas business and industry.

Among activities at Midwest are studies in measurement, automatic control and automation, chemistry, mathematical analysis, electrical engineering and electronic design, applied physics, mechanical engineering, chemical engineering, and many others.

In addition to the educational and research activities of the University of Kansas, Kansas State, and of Midwest, colleges making major contributions include Kansas State Teacher College at Emporia and Pittsburg; Washburn University at Topeka; St. Mary's College, a Jesuit seminary, St. Marys; Ursuline College, a Catholic women's school, Paola; Ottawa University, Ottawa; St. Benedict's College, Atchison; Kansas Wesleyan University, Salina; Bethany College, Lindsborg; Fort Hays Kansas State College, University of Wichita, and others.

### Attractions in Kansas

Although those who have not had the opportunity of having visited Kansas

have the impression that it consists mostly of vast and flat prairies, the scene here is far more varied than that.

The elevation, for example, rises from about 700 feet above sea level in the southeastern part to more than 4,000 feet near the western border. The topography varies from a gently rolling landscape in eastern Kansas to upland pastureland in the Flint Hills, to areas distinguished by cliffs and canyons, and finally to the western high plains.

In Northwest Kansas you will find such unusual sights as Castle Rock, a 70-foot high eroded chalk pinnacle in the Smoky Hill River Basin 22 miles southeast of Quinter.

A popular spot for visitors also is Cedar Bluff Dam and Reservoir near Ellis. The lake covers 6,600 acres and has a shoreline of 54 miles. Fishing, camping, boating and concession facilities are available.

Attractive, too, in the northwest area is the 1,280-acre Scott County State Park in an area once inhabited by Pueblo Indians. The park also has a lake surrounded by rugged terrain.

In North Central Kansas is Abilene, the boyhood home of President Eisenhower. A feature there is the Eisenhower

Memorial Museum which houses the President's collection of souvenirs and mementoes assembled during his military career and presidential terms.

At Hays may be seen the blockhouse of old Fort Hays, an important military post on the frontier, and at Kanapolis is the site of old Fort Harker, a starting point for stage lines on the Santa Fe and a freighting and supply depot.

More recreational facilities are available at Kanapolis dam and reservoir, including fishing and migratory waterfowl hunting, boating, swimming, camping, picnicing and a children's fishing lake. A landing strip for private airplanes is in the heart of the recreation area.

In Northeast Kansas, bluffs overlooking the Missouri River in Jackson Park, Atchison, offer one of the most attractive scenic views in the state. Here, too, are a number of markers and scenes of historic interest. Lake Wabunsee near Eskridge, owned and operated by the city, is a popular resort and water recreation area.

Other highlights in the northeast section of the state include Fort Leavenworth, oldest Army post in continuous existence west of the Missouri River;

Good Citizens  
Drive Safely

# Independence Daily

SEVENTY-EIGHTH YEAR—NUMBER 227

INDEPENDENCE, KANSAS, THURSDAY, JUNE 4, 1959

## Amount Over-Subscribed Drive For \$50,000 Ends Before It Starts

A kickoff breakfast for a campaign to raise \$50,000 for Independence Industries, Inc. here this morning turned into a victory celebration as Chairman Rufus Daggett announced the amount had already been over-subscribed.

Thirty campaign workers and officials gathered at the Booth Hotel preparatory to making the solicitation, but were informed they could return to their places of business as the books had been closed on the drive and victory was in hand.

Independence Industries Inc. announced the drive sometime ago after Electra Manufacturing Company had stated a need for aid.

plant at the northwest edge of the city. Electra has on order more than \$200,000 worth of new equipment, but needed space for the expanded operations.

Chairman Daggett of the Chamber committee in charge of the drive said this morning that responses started immediately after the drive was announced and before plans were completed. Subscribers cooperated voluntarily and by Wednesday night of this week the entire amount was assured.

"The committee which I head is most grateful to the wonderful people of Independence who have so generously taken part in this most worthwhile campaign," Chairman Daggett

said this morning.

"This is possibly one of the rare occasions and certainly the first time for Independence when a drive had been completed before it ever started. Credit for such a success goes to no one individual, but is indicative of the genuine civic spirit which has always distinguished this city from others," he concluded.

At today's breakfast, which was given by President Fred Wilkin of the Chamber of Commerce, remarks were heard from Vic Woodell, representing Electra, Wilkin representing the Chamber, Daggett for the drive committee and Harrison Johnson and Donald Stev-

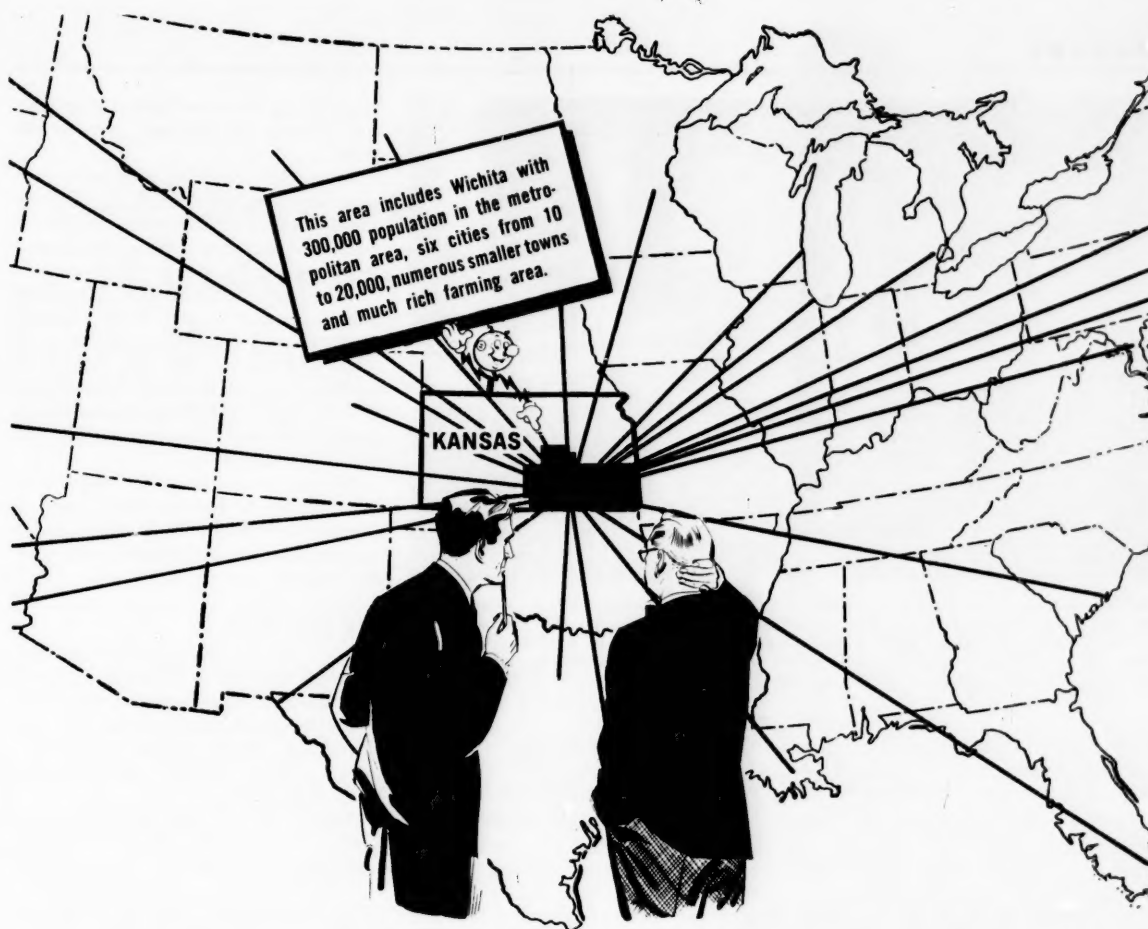
of Independence Industries Harrison F. Johnson, president of Independence Industries, Inc., stated the officers and of the local development corporation related and the results of the drive. Chamber of Commerce response by citizens in subscribing for required national Electrical Corporation

Micro GET THE FACTS

FOR INFORMATION  
WRITE TO PO Box 307  
INDEPENDENCE KANSAS  
CITY OF INDEPENDENCE  
INDEPENDENCE C. OF C.  
INDEPENDENCE INDUSTRIES INC.

INDEPENDENCE KANSAS HAS IT!!





## Need Information on Southeast Kansas?

### Make Use of Kansas Gas and Electric Company's Department of Industrial Development Services



**CALL GEORGE E. BILLINGS**  
Director, Industrial Development Services

Mr. Billings has an ideal background for giving you the kind of service you'd like to have. Eleven year's experience working with communities, industrialists and others in the plant location business allows him to understand your problems and talk your language.

This department is headed by a man who understands industry needs for such confidential sources of information. He has qualified sources for any type of information you may require and can secure it rapidly for your convenience.

This department is ready to work closely with executives, plant location agencies, and the men in your company who develop economic studies of an area. Naturally, any communications will be treated in the strictest confidence.

KG&E is an active participant in the industrial development committee of all the communities and industrial development corporations in our southeast Kansas service area. When you are ready, we can help you contact the proper individuals without loss of time. Please feel free to contact our Director of Industrial Development Services whenever we can be of assistance to you.

**KANSAS GAS AND ELECTRIC COMPANY**  
Serving a 24-County Area of Southeast Kansas

201 NORTH MARKET STREET

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The Kansas State Office Building in Topeka, a functional and modern structure, is the location of offices of the Kansas Industrial Development Commission. The Capitol is in the background at left. Created in 1939, the KIDC is one of the first state agencies of its kind in the United States. Its aggressive program of promotion is carried out by five departments: Administration, field services, economic research, publicity and tourist promotion.

Fort Riley, one of the largest inland military reserves in the nation, and Wyandotte County Lake and Park.

Southwest Kansas has famous Dodge City, and near here the old Santa Fe trail ruts are visible for many miles. Another feature of the area are the natural gas installations and carbon black plants.

Many of the state's major oil producing fields are in South Central Kansas, and the area also has major salt producing centers. A curiosity for tourists is the home of Carrie Nation, famed anti-liquor crusader, which is now a museum at Medicine Lodge.

The Southeast section, area of rivers and lakes, provides unusually attractive recreational activities, as well as additional points of historical interest.

The State Capitol at Topeka is located on a 20-acre square near the center of the city. The Lincoln Statue and the Pioneer Woman Statue are on the Statehouse grounds.

East of the Capitol is the Kansas Memorial Building which includes the headquarters of the Kansas State Historical Society. The Society's museum contains many interesting historical exhibits, and its newspaper collection is the largest in the country except that of the Library of Congress.

Also in Topeka is the general office of the Santa Fe Railroad which laid its first tracks from Topeka in 1868 headed for the trade area of the southwest.

The State of Kansas completed a new \$9 million state office building in 1957, which is west of the Statehouse.

Located here is the world-famous Menninger Foundation, psychiatric clinic, hospital and training center; Forbes Air Force Base and the Topeka Air Force station; Mulvane Art Museum on the campus of Washburn University, and the outstanding Gage Park Reinisch Rose and Rock Garden.

The annual Kansas Mid-America Fair is held in September on 30 acres of fairgrounds with many permanent buildings and a grandstand.

Concerning the attractions of Kansas, Governor George Docking urges that you come on out "where there is still time and space to relax. Enjoy the rolling hills of eastern Kansas, the upland pastures and wheatlands of central Kansas; the great sweep of the high plains to the west, the roadside parks, lakes and streams.

"Whether you come for a day, a few days, or to make Kansas your permanent home," he added, "we welcome you and hope you will stay as long as you can."

#### Other Amenities

In the communications field, Kansas has 51 daily newspapers with an average circulation of 715,000. These are supplemented by 291 weekly publications which have a combined circula-

tion, giving news and advertising services in even the remotest parts of the state.

State-wide television and radio coverage is provided by 11 TV and 48 radio stations. This includes one educational TV station and three educational radio outlets.

Telephone facilities also have kept pace with the growth of the Kansas economy, and a continuing program of expansion to increase this service is under way. Latest available figures from the Kansas Telephone Association showed a total of well over 800,000 phones in service.

Strong in churches, the cities and communities in Kansas offer places of worship in virtually all denominations, and no citizen is far from the church of his choice.

#### The I.D. Team

Kansas has many organizations and agencies equipped to help you with site selection and expansion planning. The 1960 Site Selection Handbook, for example, lists 140 development organizations operating at local, area and state levels in Kansas.

One of the first state agencies of its kind in the United States, the Kansas Industrial Development Commission was created by the state legislature in 1939 to develop and promote the industrial interests of Kansas.

To carry out its duties, the Commission is organized into five departments: Administration, field services, economic research, publicity, and tourist promotion.

Among its activities in field services, the KIDC assists communities and area groups in advising their industrial committees on such topics as industrial surveys, industrial sites, buildings, planning and zoning, community foundations, industrial levies, industrial brochures and industrial prospects.

Each year the KIDC sponsors a series of regional industrial workshops in Kansas to give civic and business leaders in all areas of the state an intensive run-down on the techniques of industrial development. As a consequence, any local or area group that you might contact in Kansas will have had the benefit of this special training.

Services of the Commission to existing industry include (1) publicizing the company and its products in the bi-monthly magazine *Kansas!* and the Directory of Kansas Manufacturers and Products; (2) ensuring that all possi-

## **Get the pick of industrial sites in Kansas**

*...with the help of*

*Rock Island's D. W. Dotson*

Mining, agriculture, manufacturing, oil refining ... these are the industries that make Kansas great. Rich in natural and human resources, and the center of a vital marketing area, Kansas promises you a dynamic future.

You can take advantage of this bright promise by locating your business in one of the many prosperous industrial areas in Kansas, where the Rock Island railroad, which blankets the state, stands ready to carry your products to the nation. D. W. Dotson, Topeka, is the Rock Island man who can help you.

Mr. Dotson and his staff know every acre of this select industrial property intimately. They're typical of Rock Island personnel who, in the past three years, have helped locate over a billion dollars of private industry along Rock Island tracks. Let them help you. Write, in confidence, to:



### **ROCK ISLAND LINES**

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La Salle Street Station  
Chicago 5*

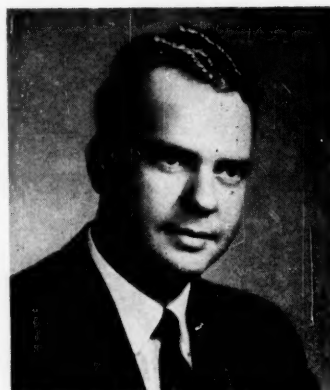




KIDC Director John Sticher has held his present position since 1956 and has been with the organization since 1953. His previous background includes a number of years as an officer of a wholesale grocery firm and as a banker. He now travels from coast to coast in promoting Kansas as a location for industrial and commercial facilities.



Head of economics research for KIDC is John E. McCauley, Jr., who worked with both public and private research agencies. Before taking his present position late in 1955. He previously had worked with the Kansas State Chamber of Commerce in its research department and also with the research department of the Kansas Legislative Council.



Field Representative Gene Stewart assists Kansas communities in their planning of industrial development programs and consults with officials of manufacturing firms throughout the state. With KIDC since 1955, he also has experience in the area of economic research and provides statistical data to Kansas communities and industry.



Another field representative for KIDC is Clarence J. Becker who began his work with the Commission in August, 1956. He has served successively as research engineer and chemist with the Kansas State Highway Commission, the Army Corps of Engineers, Pan American Refining Corporation, and the Bureau of Reclamation at Denver.



Don Richards, KIDC public relations director, wears several hats. His principal assignment is production of the bi-monthly state magazine KANSAS! In this capacity he serves as editor, writer of the principal articles, and photographer. Before joining the commission in 1951, he was with Stephens College at Columbia, Mo.

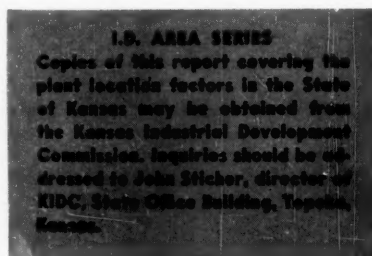
bilities for financial assistance are known to an industry and (3) assisting manufacturers in locating raw materials or supplies and determining markets for the company.

Maintaining an aggressive program to encourage out-of-state industry to locate in Kansas, members of the KIDC field services division confer regularly with selected industrial executives throughout the nation to acquaint and discuss with them the profit potential in Kansas for their particular type of industry.

In addition to the publications mentioned earlier, the Commission com-

piles the Directory of Kansas Manufacturers and Products, a complete listing of all 3,540 Kansas industries and their products.

John Sticher is director of the KIDC,



and John E. McCauley is research director.

As you will note in your Handbook listing, the agencies eager to help you include not only local chambers of commerce and development boards but also the development departments of railroads, utilities and banks, as well as others.

Supplementing this, of course, is the National Community Audit Registry at Conway Publications, Inc. Copies of audits in which you may be interested may be obtained from I. D., the KIDC, or from any one of the audited communities listed elsewhere in this report.





*Hitch your company wagon  
to a whole flock  
of stars*

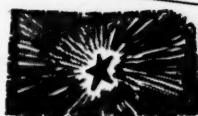
Right smack in the big middle of the country, Hutchinson, Kansas, invites you to join the growing number of far-seeing industrialists who are finding that Hutchinson offers EVERYTHING they need for successful plant operation.

If you're considering building or expanding we'd like to show you facts and figures that will open your eyes to the possibilities of this expanding industrial center, gateway to the fast-growing Southwest.

*Hitch to Hutch!*

Address your inquiries to Hutchinson Industrial Development, Inc., Box 946, or, if you're in a rush, telephone us at MOhawk 2-3391.

*Hutchinson*



*Kansas*



## CITIES ARE KNOWN BY THE COMPANIES THEY KEEP

We proudly list the nationally known manufacturing firms located in our area . . .

- E. I. DuPont DeNemours Company
- Callery Chemical Company, Inc.
- Westvaco Mineral Products Division  
Food Machinery and Chemical Corporation
- Hallmark Cards, Inc.
- Stokely Van-Camp, Inc.
- Goodyear Tire and Rubber Company

These and other companies have found the right "climate" here and so will you!

THERE IS A REASON WHY \$79,000,000 has been invested in manufacturing plants in this area since 1950.

*For information write:*



E. R. Zook, Secretary  
WREN Building — Lawrence, Kansas



# Mr. Executive:

THIS special section of *Industrial Development* has, we trust, given you a fairly detailed picture of Kansas today—as reported by the editors of this magazine.

Yet, it would take a publication many times this size to answer all the questions you may have regarding the profit advantages that are available in a Kansas plant location.

It is our job to help you in your investigation of Kansas as a possible site for your next move or expansion. Please call on us. We'll treat each inquiry promptly and with the strictest confidence.

## KANSAS INDUSTRIAL DEVELOPMENT COMMISSION

State Office Building • Topeka, Kansas CE 5-0011 Ext. 8001

John Sticher, Director

# Record Rainfall Data

**Rainfall, its frequency and volume, is one of the important matters to be taken into consideration in selecting a plant site and in the actual design of plant facilities. In this report the U. S. Weather Bureau gives examples of rain patterns in various areas as well as methods for determining what to expect in rainfall intensity in any particular area . . .**

**H**OW Hard Can it Rain? How much in an hour, a day, a week? How much at one point — as at a rain gage — and how much over a drainage area of a few square miles to thousands of square miles?

Answers to such questions must be considered in the design and location of industrial and business buildings, as well as in the design of major water-control structures such as dams.

The answers are called estimates of the upper limits of rainfall rates, or probable maximum precipitation. They require considerable research, a number of theoretical and empirical assumptions, a look into the future and a look into the past.

A basic guide to the estimates is the look into the past — an answer to the question: "How hard has it rained?" Even this is not an easily answered question. Periods of record are generally short — few are over 100 years. Networks of rain gages are generally inadequate. In the United States, for example, with an area slightly over 3 million square miles, there are between

12,000 and 13,000 rain gages, or an average of about one gage per 250 square miles. The opening through which the rainfall enters the standard gage is 8 inches in diameter, or about 1/30,000,000 of a square mile in area. If all the gages in the United States were concentrated in one group, the total catchment area would be no more than about 1/6000 of a square mile — less than the area of the standard baseball diamond.

Obviously, the rainfall measured by these gages is but a small sample of that falling over the entire country. The sampling is particularly poor for local cloudbursts, which are restricted to a few square miles in area. The chance that the most intense rainfall in a cloudburst would center over a gage is extremely remote. The more uniform rainfall rates in the large-area general rainstorms, often extending over tens of thousands of square miles, are naturally much better represented by the gage sampling.

Considering that there are many heavy rainfall regions with few or no

rain gages, one must be careful to avoid the presumption that the heaviest known rainfall intensities represent the maximum rates that have occurred or could occur. However, it is safe to say that the limiting rainfall rates must equal or exceed the maximum observed intensities, which thus must be looked upon as the lower limit of probable maximum rainfall. As such, they hold interest not only for the layman, but for the meteorologist and hydrologist. Figure 1 lists the maximum observed rainfalls of the world.

An interesting feature of the data of Figure 1 is that when they are plotted on logarithmic paper, as in Figure 2, they delineate an approximately straight line. The equation of the straight line enveloping the data is  $R=15.3D^{0.486}$ , where R is rainfall in inches, and D is duration in hours.

The data of Figure 1 and Figure 2 are point values only. In other words, they apply only to rainfall that has actually fallen into gages. No inferences should be made as to over how large an area any of these rainfall amounts ex-

# RAINFALL

## WORLD'S GREATEST OBSERVED POINT RAINFALLS

Duration	Depth (in.)	Location	Date
1 min.	1.23	Unionville, Md.	July 4, 1956
8 min.	4.96	Fussen, Bavaria	May 25, 1920
15 min.	7.80	Plumb Point, Jamaica	May 12, 1916
20 min.	8.10	Curtea-de-Arges, Roumania	July 7, 1889
42 min.	12.00	Holt, Mo.	June 22, 1947
2 hr. 10 min.	19.00	Rockport, W. Va.	July 18, 1889
2 hr. 45 min.	22.00	D'Hanis, Tex. (17 mi. NNW)	May 31, 1935
4 hr. 30 min.	30.8+	Smethport, Pa.	July 18, 1942
15 hr.	34.50	"	July 17-18, 1942
18 hr.	36.40	Thrall, Tex.	Sept. 9, 1921
24 hr.	45.99	Baguio, Philippine Islands	July 14-15, 1911
39 hr.	62.39	"	July 14-16, 1911
2 days	65.79	Funkiko, Formosa	July 18-20, 1913
2 days 15 hr.	79.12	Baguio, Philippine Islands	July 14-18, 1911
3 days	81.54	Funkiko, Formosa	July 18-20, 1913
4 days	101.84	Cherrapunji, India	June 12-15, 1876
5 days	114.50	Silver Hill Plantation, Jamaica	Nov. 5-9, 1909
6 days	122.50	"	Nov. 5-10, 1909
7 days	131.15	Cherrapunji, India	June 24-30, 1931
8 days	135.05	"	June 24-July 1, 1931
15 days	188.88	"	June 24-July 8, 1931
31 days	366.14	"	July 1861
2 mo.	502.63	"	June-July 1861
3 mo.	644.44	"	May-July 1861
4 mo.	737.70	"	Apr.-July 1861
5 mo.	803.62	"	Apr.-Sept. 1861
6 mo.	884.03	"	Apr.-Sept. 1861
11 mo.	905.12	"	Jan.-Nov. 1861
1 yr.	1041.78	"	Aug. 1860-July 1861
2 yr.	1605.05	"	1860-1861

FIGURE 1

## DEPTH-DURATION RELATION OF WORLD'S GREATEST RAINFALLS

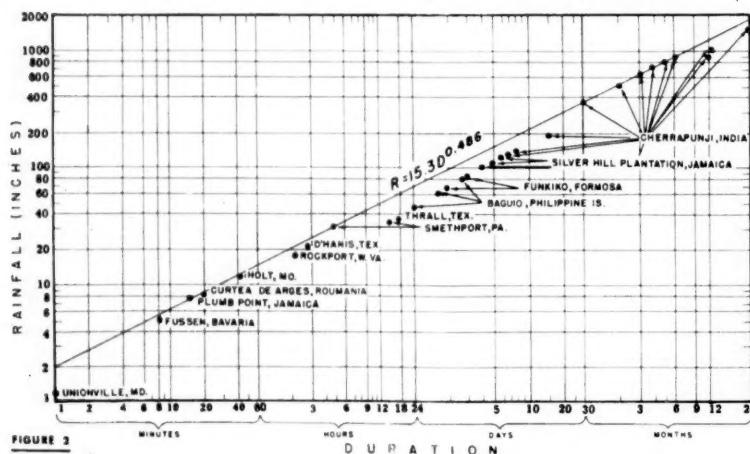


FIGURE 3

tended. On the basis of experience, it is known that rainfall intensities of the magnitudes depicted by the data of Figure 1 and Figure 2 are restricted to small areas and that the rainfall rates decrease with distance from the center of heaviest rainfall. They also decrease with increasing duration. The relations between rainfall depth, area, and duration in several hundred storms in the United States have been analyzed for the purpose of providing basic data for the design of hydraulic structures. The maximum depth-area-duration data obtained from these analyses are presented in Figure 3.

In general, the maximum rainfalls of record for short durations and small areas are thunderstorms or cloudbursts resulting from locally intense convective instability, often in conjunction with cyclonic or frontal activity. All Figure 1 entries for durations up to 15 hours were of this type. This includes the Smethport, Pa., storm, which also provides some maximum values in Figure 3.

The maximum rainfalls for durations of one week and longer observed at Cherrapunji, India (Figure 1) were monsoonal rains. Monsoons are seasonal, on-shore winds that predominate in late spring and summer between large land and water masses at the lower latitudes. They bring a continuous flow of moisture-laden air inland from over the warm oceans. This inflow of moisture can result in copious quantities of rain for long periods, especially if, as in India, there are appreciable mountain barriers to force the air to rise and cool to produce condensation and precipitation.

All maximum observed rainfalls for intermediate durations, i.e., 18 hours to 6 days, in Figure 1 were associated directly or indirectly with tropical disturbances of different intensities ranging from weak to hurricane, or typhoon, proportions.

All United States maximum observed rainfalls of Figure 3 with the exception of the Smethport, Pa., storm, were associated with either tropical disturbances or with temporarily intensified inland flow of moist air from the Gulf of Mexico induced by unusually favorable atmospheric pressure distributions, with the rainfall being triggered by an extratropical cyclone or front moving into the moist air current.



The maximum observed rainfalls of Figures 1 and 3 prompt the question, "How often should rainfalls of these magnitudes be expected to occur?" Unfortunately, there are no readily available statistics on these particular data. However, the results of some analyses of the frequency of rainfall intensities for various cities in the United States can be used to estimate the frequency with which their maximum observed rainfalls might be expected to occur. A discussion of some purposes and terminology of frequency analyses of rainfall intensities is perhaps appropriate at this point.

When an engineer designs a system for draining storm runoff from the surface of an airfield, for example, he bases the capacity of the system on safety and economics. At one extreme, it would not be economical to make the drains so large that they would accommodate the maximum rainfall that could possibly occur. At the other extreme, it would not be economical to have water standing on the runways after every little shower. The engineering and economic analyses for airfields, highway culverts and bridges, small dams, storm sewers, etc., in general, for structures whose overtopping or failure would not endanger human life — are usually on the basis of rainfall intensities that might be expected to be equalled or exceeded once in  $n$  years, where  $n$  (the return period) usually takes values from 2 to 100, depending on the importance of the structure.

A rainfall intensity that could be expected to be equalled or exceeded on the average of once every 5 years is known as a 5-year rainfall intensity (or 5-year storm), and is said to have a return period of 5 years. The probability of this rainfall intensity being equalled or exceeded in any one year is 0.20, which is the same as 1 out of 5, or 10 out of 50. In other words, the 5-year rainfall intensity could be expected to be equalled or exceeded an average of 10 times during a 50-year period. This does not mean that such an intensity would be observed regularly every 5 years.

Figure 4 shows the maximum rainfalls of 24-hour duration for each year of the 83-year period, 1871-1953, at Washington, D. C. The 24-hour rainfall expected to be equalled or exceeded once in 5 years (known as the 5-year 24-hour rainfall) was computed by the method of frequency analysis developed

### MAXIMUM DEPTH AREA DURATION DATA FOR THE UNITED STATES (Average precipitation in inches)

Area (sq. mi.)	Duration (hr.)						
	6	12	18	24	36	48	72
10	24.7a	29.8b	36.3c	38.7c	41.8c	43.1c	45.2c
100	19.6b	26.3c	32.5c	35.2c	37.9c	38.9c	40.6c
200	17.9b	25.6c	31.4c	34.2c	36.7c	37.7c	39.2c
500	15.4b	24.6c	29.7c	32.7c	35.0c	36.0c	37.3c
1,000	13.4b	22.6c	27.4c	30.2c	32.9c	33.7c	34.9c
2,000	11.2b	17.7c	22.5c	24.8c	27.3c	28.4c	29.7c
5,000	8.1bd	11.1b	14.1b	15.5c	18.7c	20.7c	24.4c
10,000	5.7d	7.9f	10.1g	12.1g	15.1c	17.4c	21.3c
20,000	4.0d	6.0f	7.9g	9.6g	11.6c	13.8c	17.6c
50,000	2.5gh	4.2i	5.3g	6.3g	7.9g	8.9g	11.5j
100,000	1.7h	2.5hk	3.5g	4.3g	5.6g	6.6j	8.9j

Storm	Date	Storm Center
a	July 17-18, 1942	Smethport, Pa.
b	Sept. 8-10, 1921	Thrall, Tex.
c	Sept. 3-7, 1950	Yankeetown, Fla.
d	June 27-July 4, 1936	Bebe, Tex.
e	June 27-July 1, 1899	Hearne, Tex.
f	April 12-16, 1927	Jefferson Parish, La.
g	March 13-15, 1929	Elba, Ala.
h	May 22-26, 1908	Chattanooga, Okla.
i	April 15-18, 1900	Eutaw, Ala.
j	July 5-10, 1916	Bonifay, Fla.
k	Nov. 19-22, 1934	Millry, Ala.

FIGURE 3

### MAXIMUM ANNUAL 24-HOUR RAINFALL FOR WASHINGTON, D. C. (1871-1953)

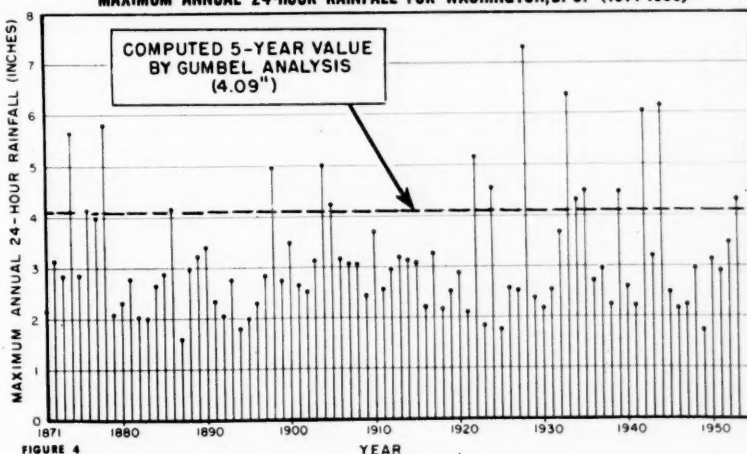


FIGURE 4

### MAXIMUM OBSERVED AND 100-YEAR 24-HOUR RAINFALLS FOR FIFTEEN UNITED STATES CITIES

City	Years of Record <sup>1</sup>	Maximum 24-Hr. Rainfall (in.)	Date <sup>2</sup>	100 Yr. 24-Hr. Rainfall (in.)
Boston, Mass.	85	8.40	Aug. 18, 1955	7.1
New York, N. Y.	88	9.55	Oct. 8, 1903	7.3
Washington, D. C.	88	7.31	Aug. 11, 1928	7.6
Jacksonville, Fla.	87	9.86	Sept. 25, 1894	11.3
Cincinnati, O.	88	5.22	Mar. 12, 1907	5.6
Chicago, Ill.	88	6.24	July 12, 1957	5.4
St. Louis, Mo.	88	8.78	Aug. 15, 1946	8.4
New Orleans, La.	88	14.01	Apr. 15, 1927	14.8
Galveston, Tex.	88	14.35	July 13, 1900	13.7
Denver, Colo.	87	6.53	May 21, 1876	3.5
Albuquerque, N. Mex.	71	2.26	Sept. 27, 1893	2.4
Salt Lake City, U.	85	2.72	May 2, 1901	2.2
Portland, Ore.	88	7.66	Dec. 12, 1882	4.9
San Francisco, Cal.	88	4.67	Jan. 29, 1881	4.3
Los Angeles, Cal.	81	7.36	Dec. 31, 1933	8.1

<sup>1</sup>Prior to 1959. <sup>2</sup>Of first day when 24-hour rainfall extends into two calendar days.

FIGURE 5

### MAXIMUM OBSERVED 24-HOUR RAINFALLS VS. 100-YEAR 24-HOUR RAINFALLS (For 15 U. S. Cities)

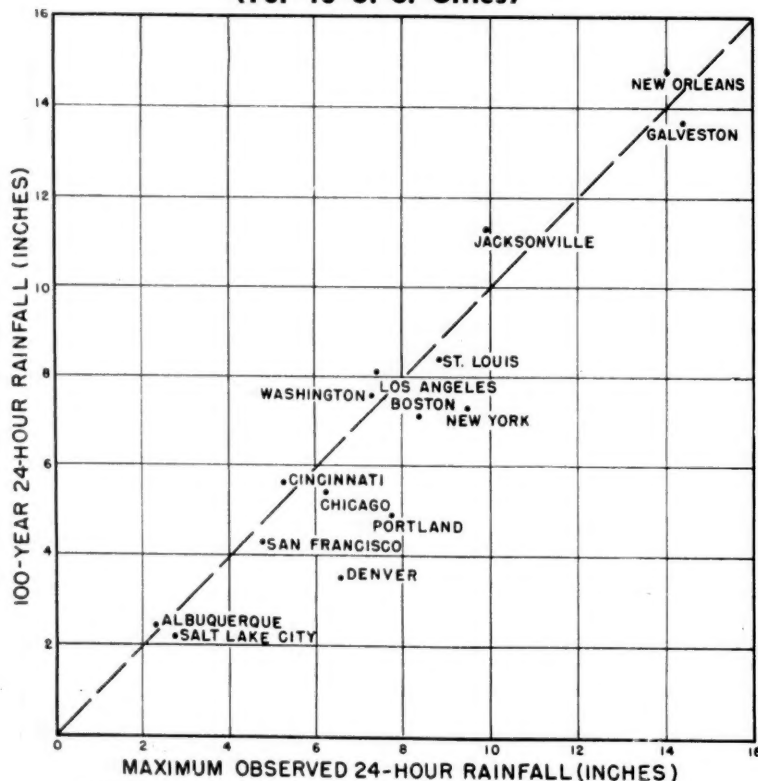


FIGURE 6

by the statistician, E. J. Gumbel, and found to be 4.09 inches. This value is shown as a horizontal, dashed line in Figure 4. It can readily be seen that the value of 4.09 inches has been equalled or exceeded on the average about once every 5 years. However, the record shows marked departures from this average of once in 5 years. From 1906 through 1921, a period of 16 years, the annual maximum values were consistently less than the 5-year value of 4.09 inches, but they exceeded that value in 3 consecutive years, 1933-1935. This shows the irregular nature of the intervals between recurrences of an event of given magnitude in a long period of record.

In Figure 5 there are listed maximum observed 24-hour rainfalls for 15 selected U. S. cities. The last column shows the 24-hour rainfalls that could be expected to be equalled or exceeded on the average over a long period, once in 100 years (by Gumbel analysis). Comparison of the maximum and 100-year values suggests that the maximum observed 24-hour rainfalls during the period of record (averaging 86 years for the 15 stations) tend to agree fairly well with the 100-year rainfalls. This agreement is disclosed more readily by the diagram of Figure 6 which shows the maximum observed 24-hour rainfalls plotted against the 100-year values. Stations to the left of the dashed, diagonal 45-degree line are those with maximum 24-hour rainfalls that could be expected to be equalled or exceeded on the average oftener than once in 100 years. Those to the right have a return period greater than 100 years.

Figure 6 shows that the maximum observed 24-hour rainfalls for New York, Portland, and Denver are much greater than the corresponding 100-year rainfalls. From the values of Figure 5 it is found that the maximum observed 24-hour rainfall for New York is 131 percent of the 100-year value, that for Portland is 156 percent, and that for Denver, 187 percent. By extrapolating the results of available frequency analyses, it was found that the recurrence interval of New York's maximum 24-hour rainfall is of the order of 700 years while that for Portland and Denver maxima is over 1,000 years. It should be noted, however, that these estimates of recurrence expectancy have little reliability as they are based on relatively short rainfall records.

# RECEIPTS



By Suzanne Johnson

## AREA REPORTS

**The Art of Administering and The Art of Science** by Dr. Robert D. Calkins. In this paper Dr. Calkins suggests the points at which the social scientist and the administrator may have sufficiently common interests to provide a basis for the expansion of knowledge in the important field of administration. Bureau of Business Research, School of Business, Indiana University, Bloomington, Indiana. 45 pages.

**Appraisal and Valuation Manual, 1959.** Topics discussed in this volume cover a broad scope of interest, ranging from the valuation of Currier & Ives prints, and early American pewter to the appraisal of large-scale housing projects and the Empire State Building. Included are articles on theory, precision, tax equalization, capitalization rates, buyer motivations, depreciation, obsolescence, ad valorem assessment, structural costs, accounting concepts, condemnation, property records, backward valuation, specialty financing, and many other subjects.

The manual is carefully planned as an addition to the previous issues to form a growing encyclopedia of practical appraisal knowledge, useful not only to the appraiser and the valuation engineer but also to businessmen, government officials, and many others concerned with valuation matters. American Society of Appraisers, Suite 2201, 369 Lexington Avenue, New York 17, New York. 525 pages.

**Symposium on Basic Research.** How can the nation stimulate and support basic scientific research on a scale and in a manner truly appropriate to national

needs and resources? A distinguished list of speakers, headed by President Eisenhower, and a group of 250 scientists, industrialists, government officials, and college presidents devoted three days in May of 1959 to the consideration of this question. This book presents the addresses and conclusions of the symposium. American Association for the Advancement of Science, 1515 Massachusetts Avenue, N. W., Washington, D. C. 308 pages.

**Changing Forces Which Affect City Growth** by Robinson Newcomb. Dr. Newcomb, as a consulting economist, is one who questions current urban growth predictions. In this iconoclastic review he suggests that new criteria are stronger than older premises. Urban Land, October, 1959. Urban Land Institute, 1200 18th Street, N. W., Washington 6, D. C. 6 pages. \$1.00.

**Western Resources Handbook** revised and updated Index. Stanford Research Institute, Menlo Park, California. 38 pages.

**Third 1959 Installment Chemical Economics Handbook.** Stanford Research Institute, Menlo Park, California. 160 pages.

**Fourth 1959 Installment Chemical Economics Handbook.** Stanford Research Institute, Menlo Park, California. 65 pages.

## GENERAL REPORTS

**Victoria Area Industrial Guide.** A keyed map listing industry in the area. Victoria Bank & Trust Company, P. O. Box 730, Victoria, Texas.

**Governor's Industrial and Economic Development Conference.** This bulletin is a record of the outstanding meeting of the Governor's Conference on Industrial Development for Virginia held in May, 1959. All of the papers presented on the program are contained in this bulletin. Virginia Engineering Experiment Station, Virginia Polytechnic Institute, Blacksburg, Virginia. 60 pages.

**A Look At Georgia Manufacturing Industries.** An analysis of the most promising areas for industrial development in the state. Dean, School of Business Administration, Emory University, Atlanta, Georgia. 36 pages.

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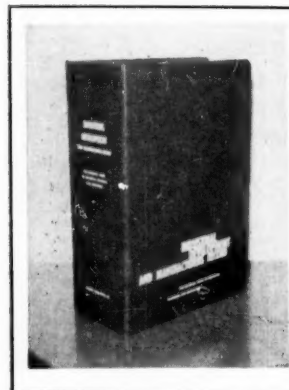
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## INDEX TO PROFESSIONAL AFFILIATIONS

AIDC . . . American Industrial Devel. Council  
AIP . . . . . American Institute of Planners  
AMA . . . American Management Association  
ARDA . . . American Railway Devel. Assn.  
ASPCA Assn. of St. Plan & Devel. Officials  
ASPO . . . Amer. Society of Planning Officials  
EEI Edison Elec. Inst., (Area Dev. Comm.)  
GLSIDC . . . St. Lakes Sts. Ind. Devel. Council  
NIDA . . . Northeastern Industrial Devel. Assn.  
NIZC . . . Natl. Industrial Zoning Committee  
PNWIDC . . . Pacific N.W. Ind. Devel. Council  
SIDC . . . Southern Industrial Devel. Council  
SIR . . . . . Society of Industrial Realtors  
ULI . . . . . Urban Land Institute

## EXPANSION PLANNING INDEX

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**Atchison Chamber of Commerce**, Mr. Keith E. Meade, Manager, Atchison, Kan. (Ad page 55)

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**Greater Burlington Industrial Corporation**, Mr. Charles D. Townsend, Executive Director, 191 College St., Burlington, Vt. (Ad page 4)

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**Independence Chamber of Commerce**, Mr. Wayne M. Taylor, Manager, 108 West Myrtle, Independence, Kan. (Ad page 58)

**Kansas Gas and Electric Company**, Mr. George E. Billings, Director-Industrial Development Services, 201 N. Market, Wichita, Kan. (Ad page 59)

**Kansas Industrial Development Commission**, Mr. Don Richards, Public Relations Director, State Office Bldg., Topeka, Kan. (Ad page 64)

**Kansas Power and Light Company**, Mr. William Purdue, 800 Kansas Ave., Topeka, Kan. (Ad page 47)

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**New York Central System**, Mr. W. J. Marshall, Industrial Department, 466 Lexington Ave., New York, N. Y. (Ads 2nd cover & page 1)

**Northern Natural Gas Company**, Mr. P. F. Roys, Manager-Area Development, 2223 Dodge St., Omaha, Neb. (Ad page 45)

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*The  
Colonel  
Says*

The following office rules were effective less than 100 years ago in this country. They were enforced by Zachary U. Geiger, sole proprietor of the Mount Cory Carriage & Wagon Works:

1—Office employees will daily sweep the floors, dust the furniture, shelves and show-cases.

2—Each day fill lamps, clean chimneys, and trim wicks. Wash the window once a week.

3—Each clerk will bring in a bucket of water and a scuttle of coal for the day's business.

4—Make your pens carefully. You may whittle nibs to your individual taste.

5—This office will be open at 7 a.m. and close at 8 p.m. daily, except on the Sabbath, on which day it will remain closed.

6—Men employees will be given an evening off each week for courting purposes, or two evenings a week if they go regularly to church.

7—Every employee should lay aside from each pay a goodly sum of his earnings for his benefits during his declining years, so that he will not become a burden upon the charity of his betters.

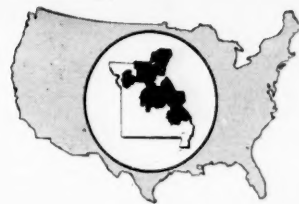
8—Any employee who smokes Spanish cigars, uses liquor in any form, gets shaved at a barber shop, or frequents pool or public halls, will give me good reason to suspect his worth, intentions, integrity, and honesty.

9—The employee who has performed his labors faithfully and without faults for a period of five years in my service, and who has been thrifty and attentive to his religion duties, is looked upon by his fellowmen as a substantial and law abiding citizen, will be given an increase of five cents per day in his pay, providing a just return in profits from the business permits it.

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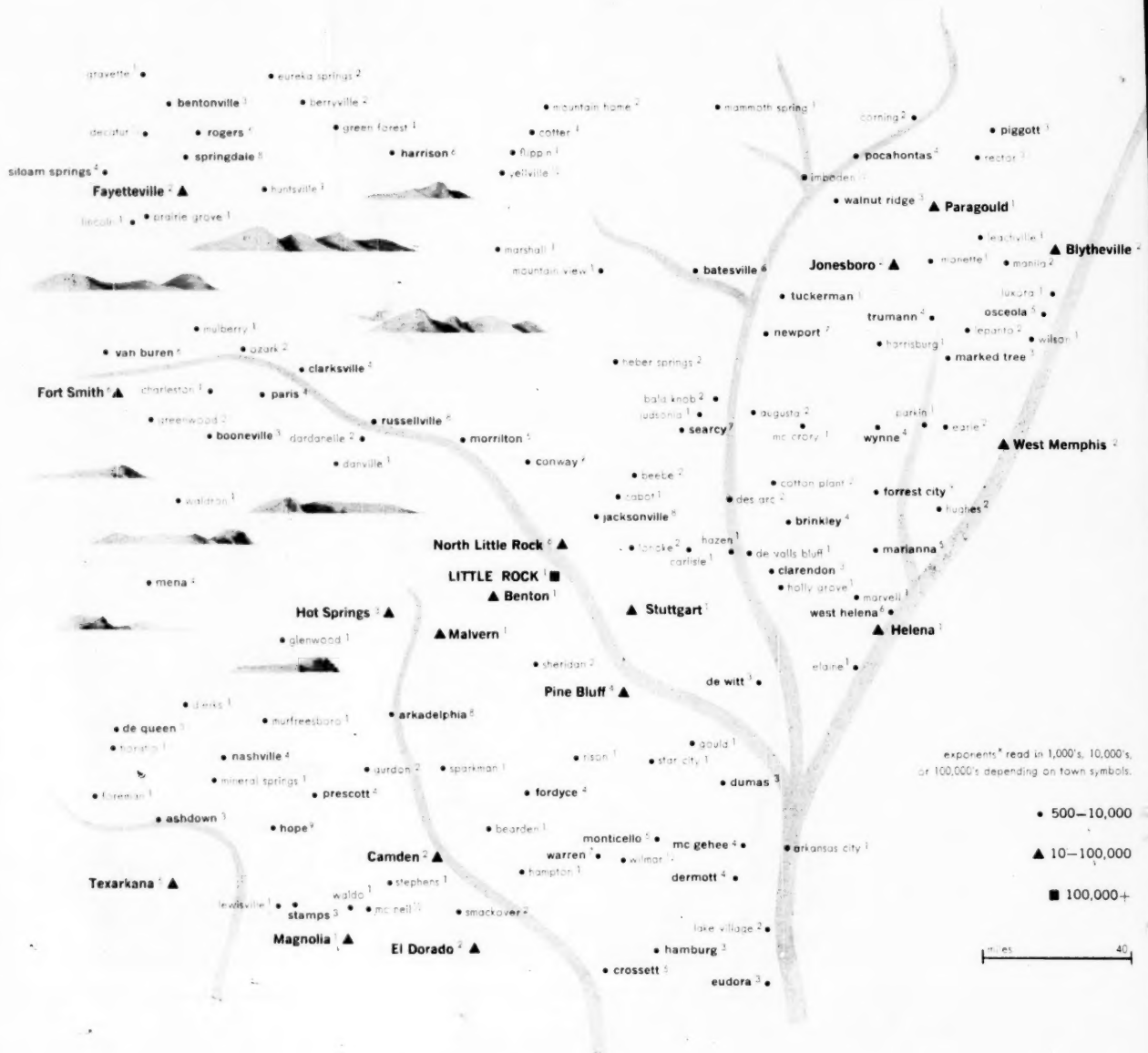
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**contact:** *J. E. Johanson, Manager, Industrial Development,*  
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These 138 Arkansas communities know what questions an industry needs answered when it's looking for a location. Each of these 138 communities is making a labor survey, determining its plant financing capacity, mapping its industrial sites, developing a city planning program, taking a community inventory and printing an industrial report—part of its comprehensive 6 Point Program of Preparedness developed in cooperation with the Arkansas Industrial Development Commission, State Capitol, Little Rock. We would like to introduce you to these towns. (And have you seen our Arkansas Encyclopedia?)



ARKANSAS: 138 ANSWERS FOR INDUSTRY



